Ready Relevant Learning (RRL) Process Manual

SAILOR 2025 (S2025) READY RELEVANT LEARNING (RRL)

SECURITY CLASSIFICATION: UNCLASSIFIED

20 August 2020

Issuing Government Activity:
United States Fleet Forces Command

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20 Aug 20

MEMORANDUM

From: Commander, U.S. Fleet Forces Command
To: Ready Relevant Learning Executive Steering Committee Voting Members

Subj: READY RELEVANT LEARNING SAILOR 2025 PROCESS MANUAL APPROVAL

Ref: (a) CNO WASHINGTON DC 281705Z Mar 16 (NAVADMIN 075/16)
(b) Ready Relevant Learning Sailor 2025 Process Manual

1. References (a) and (b) are approved ready relevant learning (RRL) Sailor 2025 process manual for the Sailor 2025 RRL program. This manual states RRL individual training development criteria, processes, and stakeholder roles.

2. Reference (a) designates U.S. Fleet Forces Command as executive agent and supported commander for RRL. Under such authority, as advised by the executive steering committee, they have approved the RRL Sailor 2025 process manual as described in reference (b).

3. My point of contact for this matter is Ms. Patricia Hayes, who can be reached at commercial (757) 836-0165, DSN 836-0165, or at email: patricia.hayes@navy.mil.

MATTHEW H. SWARTZ
Executive Director and
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1.0 Introduction

Our Navy's strategic direction drives the enterprise to maintain maritime superiority. Navy leadership must maintain constant focus on warfighting, the warfighter, and the future Navy. Therefore, the Navy must ensure investment in developing the Sailor to capitalize on every competitive edge over our adversaries.

Today's Sailors must be able to fight and win against all adversaries now and in the future. A highly trained and dynamic Naval Force is essential to increasing and maintaining Fleet readiness. As training technology evolves the Navy is adjusting accordingly. Today's training must be agile, mobile, and dynamic to teach the essential knowledge and skills in the current environment. A modernized integrated content development process and delivery system provides the competitive advantage over our adversaries. The focus of Ready Relevant Learning (RRL) is integrating brick and mortar schoolhouses with hands-on labs, flexible waterfront training, and mobile distance learning with current content, modern technology, and complete learning continuums.

The Navy is accelerating the development of RRL and bringing fundamental changes to Sailor training across three lines of effort and stages of evolution, which develops a culture of excellence and increased force lethality. The lines of effort and stages of evolution for RRL implementation are shown in Figure 1-1: Lines of Effort and Stages of Evolution.

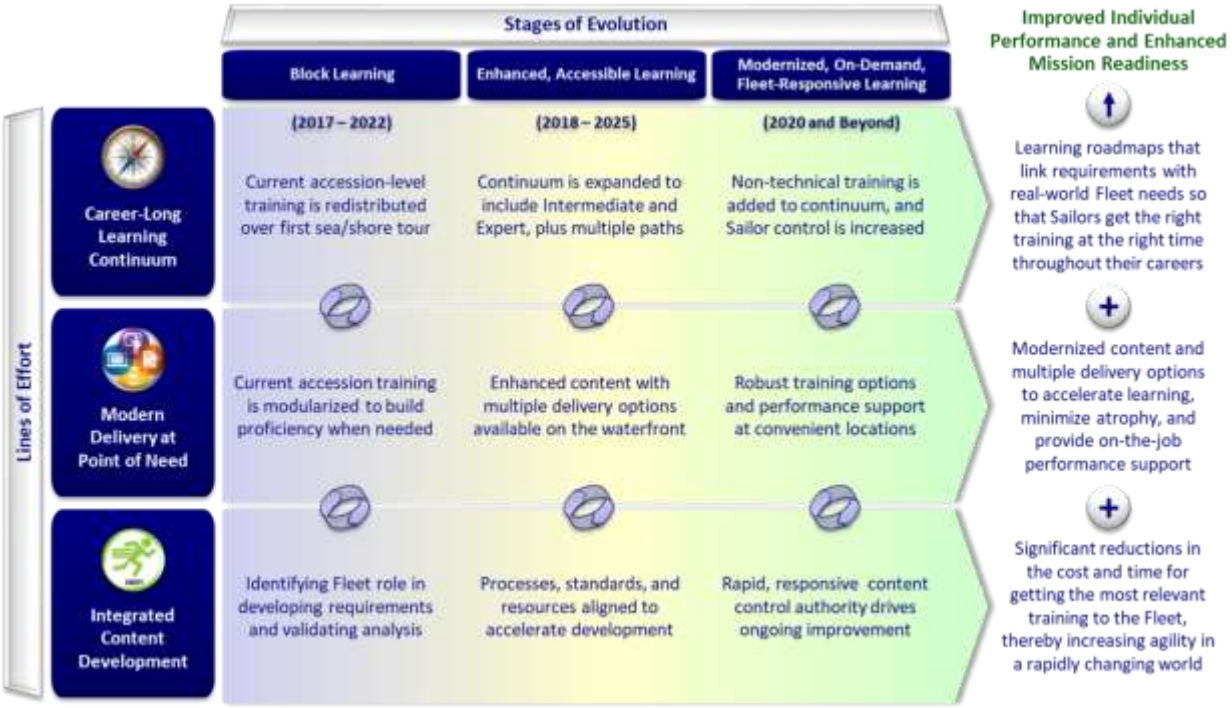


Figure 1-1: Lines of Effort and Stages of Evolution

RRL drives the transformation of Navy training by developing modernized, on-demand, Fleet-responsive learning to enhance and enrich the transfer of knowledge, skills, and abilities to Sailors in today's agile and adaptable operational climate. By leveraging state-of-the-art training aids and methodologies, knowledge and skills can be maximized across the Sailor's career

progression timeline. Navy ratings have diverse training requirements and cover a wide range of operational environments. When appropriate, training should be focused on immersive, hands-on learning allowing Sailors to complete "reps and sets" of required tasks to develop and enhance mental muscle memory including reduce latency, skill decay, and demonstrate proficiency. Developed from the Science of Learning, practical application and repetition of tasks are critical to both knowledge and skill retention. Training is designed to continuously challenge Sailors through increasing difficulty, culminating in a capstone event when feasible. Embedded assessment tools allow responsive feedback to students. Finally, training is designed and developed to be mobile, and able to be delivered in multiple location types (i.e., schoolhouses, shipboard, etc.) and modalities that reflect two tenets of RRL's success: flexibility and accessibility.

RRL is a holistic approach to reimage how the Navy trains its Sailors, including technical, professional, and leadership elements across a career. The evolution of Navy training is incremental to best maximize resources while minimizing impacts to current Sailors. The first stage, Block Learning, modularized current accession training by redistributing training to time of need, when Sailors would apply knowledge and skills in their day-to-day duties.

The second stage is modernized training delivery at the point of need. The Navy will take advantage of emerging learning technologies allowing Sailors to receive training more efficiently, whether at the waterfront or aboard their operational units. By identifying the specific time when a Sailor will demonstrate proficient performance against a particular knowledge area or skill set, we will be able to properly schedule associated training. This is essential for providing knowledge required for the performance demonstration. The other critical factor is the training relevancy. To achieve training relevancy, training content must align with current authoritative technical data sources. Finally, Sailors will need to receive training that is easily accessible at both the schoolhouse and at the operational time of need.

The final stage is on-demand and Fleet-responsive learning. The combination of emerging threats, complex missions, and new technologies demand that Sailors learn faster on the job and master new skills throughout their careers. Fleet-responsive learning is achieved when non-technical training, including management and leadership training, is added to the Sailor's career progression timeline allowing individual users and command leadership maximum flexibility on how and where training is delivered. Performance support and on-the-job training must be standardized and fully incorporated into the Navy's operational paradigm. Content must be fully modernized utilizing immersive media technology to drive multiple delivery options, resulting in minimal atrophy and maximum retention. These robust training options should take place in the work environment and align with appropriate operations and maintenance tasking. Another outcome of the final stage is to allow Sailors and their supervisor to have increased control over the timing and pace of their own development.

Processes, standards, and resources are being aligned to accelerate the development and deployment of modernized training. The content control authority drives ongoing improvement in a rapid and responsive manner. Together, this ensures proper sustainment of training aligned to Fleet needs. Program Managers, Resource Sponsors, and Type Commanders (TYCOMs) have the ability to expedite development of both training requirements and content development where applicable. Requirements and training developed must incorporate RRL compliance attributes (outlined in Section 3.3) that meet TYCOM and Learning Center requirements. This

will ensure training content, quality, and timing align to work performance that is in-step with associated career-long learning continuums.

The RRL Process Manual has been developed to leverage current Navy individual training policies and processes by incorporating RRL concepts that align to individual training development efforts across the Navy. Section 2 provides background on the RRL program along with the overarching governance structure that supports coordination and decision making. Section 3 provides an overview of the RRL development process and additional detail on key concepts, to include compliance attributes, the relationship of RRL to training system acquisition, and linkages to acquisition policy. Sections 4 through 7 provide additional detail on the training development process, incorporating approved business rules found in Appendix (I), and includes an overview of the Program Objective Memorandum (POM) process that aligns requirements and resources. Section 8 provides initial concepts for Assessment and Feedback of fielded training content. These initial concepts will be further developed as the program matures and requires sustainment.

2.0 RRL Background

Ready Relevant Learning (RRL) is a transformational Navy training initiative that accelerates the learning of every Sailor for a faster response to our rapidly changing warfighting requirements. Increased Sailor performance is achieved by coupling the timing of training with actual deckplate needs, modernizing training media to be immersive and mobile, while keeping training relevant to meet the Fleet needs. The Navy's training model was front loaded, schoolhouse centric, and stove-piped resulting in inefficient delivery of learning. This training model was in direct conflict with the Navy's mission to organize, train, and equip Sailors for sustained operations at sea or ashore. In recent years, multiple organizations began modernizing training content technology and delivery methods. RRL will both continue the modernization efforts undertaken by others and align training to rating continuums.

As training technology develops and evolves, so does the need for Navy training to evolve. Reducing the amount of passive learning (i.e., lecture) and replacing it with performance-based hands-on training will enhance Sailors' knowledge retention and develops the skills necessary to perform their jobs at a higher level utilizing state-of-the-art simulation and/or training equipment.

The transformation of training will be joined with a career-long learning continuum for every Sailor, by rating from apprentice to journeyman and master-level. Rating career-long learning continuums are one of the most important lines of effort for RRL, documenting all training injection points and requirements during a Sailor's career. RRL training requirements ensure that every Sailor receives the right training at the operational time of need to support assigned tasking. Modernizing training maximizes impact, relevance, and accelerates processes for delivering new training to the Fleet. A modern learning infrastructure is developed by transforming the legacy industrial conveyer-belt training model with content that meets Fleet-validated learning needs, improving Sailor performance and enhancing mission readiness. RRL is modernizing individual training through three specific lines of effort:

Line of Effort (LOE) I: Career-Long Learning Continuum (Figure 1-1):

The goal of the career-long learning continuum is to develop career learning roadmaps (technical, professional, and leadership content), that align with warfighter needs. As part of the RRL initiative, US Fleet Forces (USFF) and key Navy individual training stakeholders have identified the need to fully and accurately develop a career-long timeline for each rating that consists of, but is not limited to: new recruit training, rating and system specific technical training, Fleet qualifications, Structured On-the-Job Training (SOJT), professional/managerial development, leadership training, credentialing, and General Military Training (GMT) requirements.

Currently, most Navy individual training is front loaded; Sailors receive the majority of training early in their career with little to no follow-on or refresher. This leads to atrophy of knowledge, skills, and abilities from lack of use and practice which directly impacts Fleet readiness. Following the RRL philosophy of providing the "right training at right time and in the right way," training objectives are aligned as closely to the time of need as possible, minimizing atrophy, helping to ensure the proper accomplishment of the assignment, and increasing readiness.

Still under initial development, career-long learning continuums are being designed to provide a roadmap documenting individual training requirements for each rating across a timeline from recruit to retirement. Within the learning continuum, training will be properly aligned to the time when the work is performed and designed to aid in completion of assignments. The learning continuum will be designed to be an all-encompassing platform allowing Sailors to examine every path their rating may take and the required equipment/systems/subsystems training to meet career goals and Fleet requirements. As development of the career-long rating continuums progress, the associated learning roadmaps and courses must be digitally aligned with authoritative sources. Failure to digitally align with authoritative sources will cause training gaps, latency and additional training needs.

The learning continuum will also capture and track a Sailor's experience and proficiency, providing feedback to the Sailor as well as a path to the next career milestone. Additionally, the learning continuum for each Sailor should enable commands to properly develop talent to meet both the individual's goals as well as maximize readiness for the Navy as a whole.

Line of Effort (LOE) II: Modern Delivery at Point of Need (Figure 1-1):

RRL changes the training delivery methods by leveraging of emerging learning media technologies making training both more immersive and more mobile. Modernized delivery allows Sailors to receive training more efficiently, whether at the waterfront or aboard their operational units. These training solutions are intended to make training more efficient by minimizing the need to return multiple times to a brick-and-mortar schoolhouse, and by demonstrating the work actually being performed such as a how-to video to assist a maintenance or repair.

Line of Effort (LOE) III: Integrated Content Development (Figure 1-1):

In this rapidly changing world, the approach to training development and delivery must be agile enough to adapt to the shifting needs of the Fleet, and integrate new training and media technologies whenever possible to accelerate the learning process. The Navy is adjusting Manpower, Personnel and Training (MPT) processes and standards to support the ongoing development of both training content and delivery methodologies. Resource sponsor and program office processes are being aligned and standardized as they relate to training development and product acquisition. These efforts will significantly reduce the cost associated with content development, decrease the amount of time it takes to get the most relevant training to the Fleet, and establish a rapid, responsive feedback loop to drive continual training improvement.

2.1 Governance

The RRL Integration Board (IB) and RRL Executive Steering Committee (ESC) Charter establish the functions of the RRL Integration Board, the RRL ESC, and defines the roles and responsibilities of the RRL key stakeholders found in Appendix (E): RRL Integration Board and RRL Executive Steering Committee (ESC) Charter. Note that Figure 2-1 was updated during

development of this manual and until the 18 January 2019 version of reference (E) is revised, Figure 2-1 should be used to reflect current RRL governance structure.

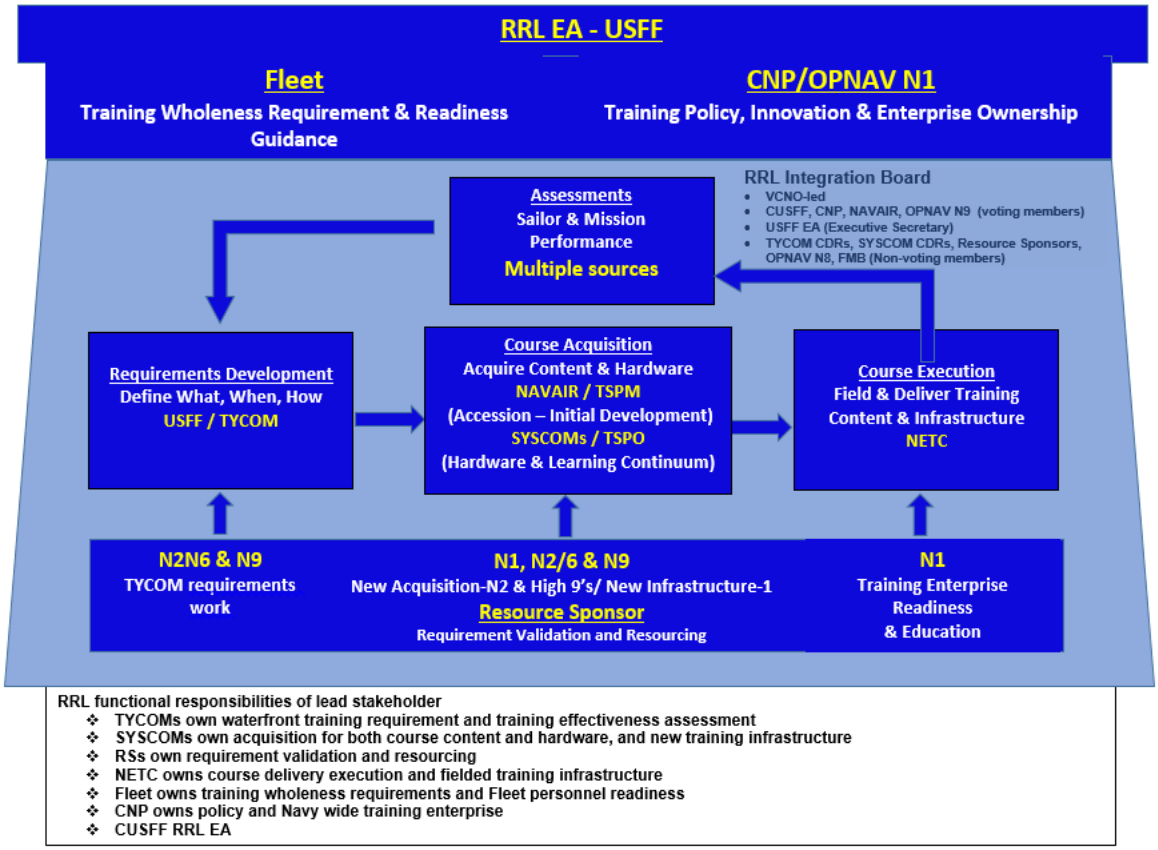


Figure 2-1: Governance and Integration Structure

USFF as the Executive Agent maintains overall authority for RRL concept development, RRL training requirement development, and overall RRL assessment to plan. Type Commanders (TYCOM) are responsible for all individual training requirements for assigned platforms, validation that the training delivered meets those requirements, and sustainment effectiveness assessments. System Commands are responsible for content development and training technology acquisition. Naval Education and Training Command (NETC) is responsible for course fielding and delivery of training content and maintenance of curriculum and training media. Since the linkages between phases make it critical for stakeholders to communicate frequently, stakeholder roles are incorporated in each step of the RRL process described in this manual.

3.0 The RRL Process

3.1 Overview

In August 2017 US Fleet Forces (USFF) released the Ready Relevant Learning (RRL) Vision and Guidance, outlining changes to the traditional Navy training paradigm. Developed under the Office of the Chief of Naval Operations (OPNAV) Sailor 2025 transformation effort, RRL paves the way for dramatic changes in the individual Sailor's training. This manual delves deeper into how-to execute that vision by developing, implementing, and continuously improving the quality of training at the correct point of need to maximize readiness. After a brief discussion of the high-level process depicted in Figure 3-1: Phases of the RRL Process, the detailed RRL process map will be broken down and explained. These additional RRL Program details are provided based on initial development efforts and lessons learned from early RRL efforts. Throughout the various sections, amplifying guidance is provided on how the RRL vision can be integrated into all training product development efforts. RRL does not take precedence over existing Navy training instructions.

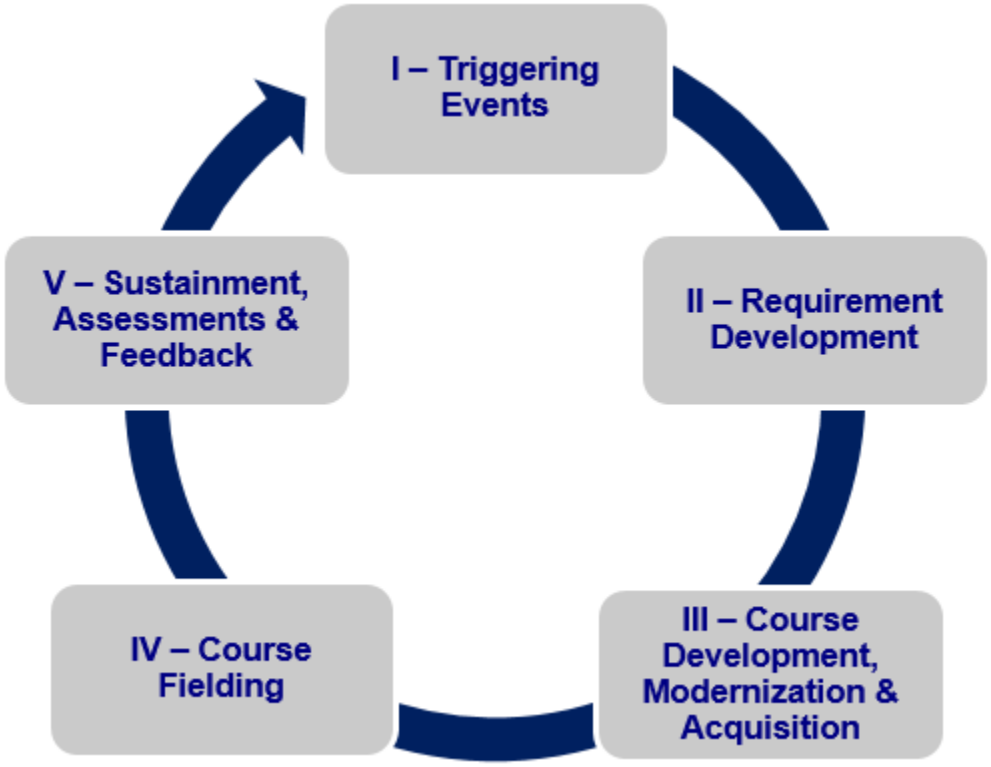


Figure 3-1: Phases of the RRL Process

The RRL Process integrates seven interrelated training content phases as described in the Naval Education and Training (NAVEDTRA) Manuals: Planning, Analysis, Design, Development, Implementation, Evaluation, and Life-Cycle Maintenance (PADDIE+M) to design and develop holistic, relevant, and standardized training content across a Sailor's career-long learning continuum. The RRL Process integrates guidance, references, standards, and training industry best practices to improve knowledge comprehension. Immersive learning provided at the time of

need drives greater professional proficiency. The Sailor's learning continuum ensures delivery of the technical, leadership, and professional military training requirements, increasing capability and competence to perform current or future assignments.

RRL's overarching and iterative focus areas are shown in Figure 3-1. In follow-on sections of the manual, these areas are broken down into smaller process steps, and the stakeholders' inputs and outputs are listed along with some amplifying information to aid in development. The five focus areas are Triggering Events (Phase I), Requirements Development (Phase II), Course Development/Modernization & Acquisition (Phase III), Course Fielding (Phase IV), and Sustainment, Assessments & Feedback (Phase V). Many of the Navy rating career tracks are affected by latency in the training being provided. This is due, in large part, to the lack of Triggering Event identification (Phase I) which was further compounded by lack of visibility and funding. Requirement Development (Phase II), while similar to past training requirement development, contains some new concepts that force discussion on "what, where, when, and how" training will be developed to meet the intentions of the RRL Vision. In the Course Development, Modernization, and Acquisition section (Phase III), the lessons learned and additional requirements supporting media development and incorporation will be discussed. Course Fielding (Phase IV) under RRL is unique due to the timing and delivery of modernized content. No longer can a course simply be piloted in the schoolhouse when much of the content is designed as performance support job aids intended to be used aboard an afloat platform. Discussions within the fielding section will provide updates to Naval Education and Training Command (NETC) guidance on course and module delivery as well as factors associated with fielding new content in traditional schoolhouses and labs. One of the biggest challenges individual training has suffered in the past is an ineffective feedback loop and pro-active sustainment. Sustainment, Assessments, and Feedback (Phase V) will discuss early efforts and plans for future work to define how performance-based assessment should be incorporated and feedback generated to encourage high-velocity learning, as well as credentialing, and measures of experience and proficiency linked to readiness.

3.2 RRL Modernized Delivery Process

The RRL Modern Delivery Process (Figure 3-2) provides a detailed roadmap that defines triggers, requirement development, fielding phases, modernization, and acquisition efforts that are critical to the successful implementation of RRL to the Fleet. The RRL Modernized Delivery Process execution requires coordination between key stakeholders. Key stakeholders are OPNAV N1, US Fleet Forces (USFF), Type Commanders (TYCOM), Systems Commands (SYSCOM), Training System Program Offices (TSPO), Resource Sponsors, Naval Education and Training Command (NETC), and Learning Centers. The coordination must ensure the quality and timely delivery of course material to the Fleet. Figure 3-2 below provides a lower level breakdown of the 5-phase process outlined in Figure 3-1 previously. RRL, using the process outlined in Figure 3-2, provides modernized, on-demand, Fleet-responsive learning for our Sailors, enabling stakeholders to leverage repeatable procedures for agile curriculum development and fielding. Noted above each of the red-outlined boxes in figure 3-2 below, are the supported and supporting commands. Because some of the individual sub-processes may have detailed supported and supporting relationships, each of those are depicted by the colored triangles. The rating stakeholders and leads are identified in Appendix (H) for coordination of multiple reviews and adjudication throughout the process.

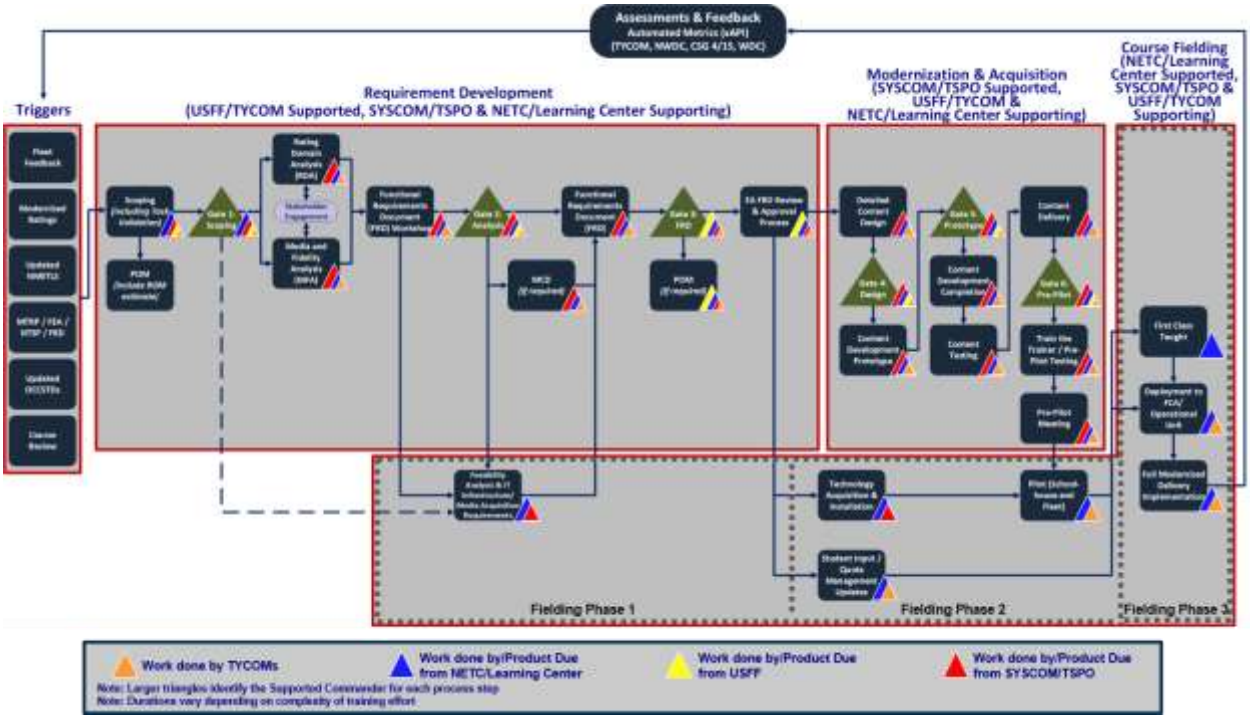


Figure 3-2: RRL Modern Delivery Process

- **Triggering Events:**
    - Triggering events (see Section 4.0 for details) are change events that may drive the addition or deletion of training requirements. When a triggering event occurs, proper analysis should be conducted to determine if a training change is warranted. The following stakeholders participate in assessment and validation of triggering events to determine if further analysis is required:

        - USFF
        - TYCOMs
        - NETC/Learning Centers
        - System Commands/TSPO

- **Requirement Development:**
    - Requirement Development (see Section 5.0 for details) outlines how-to develop and review Navy training requirements in a method that incorporates RRL concepts with an emphasis on utilizing training technology, incorporating subject matter expertise, and effects on the entire rating continuum (from Apprentice to Master). The following stakeholders participate in requirement development:
        - USFF
        - TYCOMs
        - NETC/Learning Centers
        - SYSCOM/TSPO
        - Resource sponsors

- **Course Development, Modernization & Acquisition:**
    - Course Development, Modernization & Acquisition (see Section 6.0 for details) translates the requirements gathered in Requirement Development into plans and actions to create effective training material. This is accomplished by exploring and employing innovative instructional design and assessment strategies in conjunction with new and modernized technology. This phase ensures Sailors receive integrated, coherent learning experiences that contribute towards their professional learning and development that is aligned to Fleet operations. The following stakeholders participate in Course Development, Modernization & Acquisition:
        - USFF
        - TYCOMs
        - NETC/Learning Centers
        - SYSCOM/TSPO
- **Course Fielding**
    - **Fielding Phase I (Feasibility):**
        - Fielding Phase 1 (see Section 5.9 for details) involves conducting feasibility analysis and information technology (IT) infrastructure/media acquisition requirements. This process ensures that the new modernized classrooms/courses have the hardware, software, and media required for effective training. The following stakeholders participate in Fielding Phase I which is integrated with requirement development:
            - USFF
            - TYCOMs
            - NETC/Learning Centers
            - SYSCOM/TSPO

- **Fielding Phase II (Installation and Pilot):**
  - Fielding Phase II (see Section 7.2 for details) involves the acquisition and installation of the hardware/software/media requirements established in Fielding Phase I. The pilot course is held with student input and quota management updates being compiled after pilot course completion. The following stakeholders participate in Fielding Phase II:
    - TYCOMs
    - NETC/Learning Centers
    - SYSCOM/TSPO
- **Fielding Phase III (Training Deployment):**
  - Fielding Phase III (see Section 7.5 for details) begins when the first modernized course is taught and includes the steps to provide modernized training to Fleet Concentration Area(s) (FCA) and when possible to operational units. Once the Fleet information systems networks are upgraded, fully modernized delivery will be implemented throughout the Fleet for the applicable rating. The following stakeholders must participate in Course Fielding:
    - TYCOMs
    - NETC/Learning Centers

- **Sustainment, Assessments & Feedback:**
  - Sustainment, Assessments & Feedback (see Section 8.1 for details) includes continuous assessment training to identify shortfalls, and support sustainment requirements. All deficiencies are reported back to stakeholders for action. The following stakeholders must participate in identifying training gaps and shortfalls identified in the operational environment which is known as High Velocity Feedback:
    - USFF
    - TYCOMs
    - NETC/Learning Centers
    - SYSCOM/TSPO

Gate reviews have been built into the overall process and are shown as green triangles within the process map. These formal reviews allow stakeholders to examine products and provide comments for adjudication. Gate reviews serve as milestones within the development process and typically require agreement to lock down a specific deliverable. This enables the development team to move to the next step in the process with a solid foundation. The Gate is complete once the Memorandum for the Record (MFR) is published and any follow-up action items are complete. The Gates are not intended to hold-up production, rather they are designed to align work to Fleet needs. Each gate review is outlined in detail later in the manual, listing objectives and required stakeholders. Stakeholder representatives must be empowered to make decisions for their respective commands. In-process reviews are not built into the formal process, however, performing activities should conduct these reviews upon stakeholder request to ensure alignment during each process step.

3.3 Ready Relevant Learning (RRL) Compliance Attributes

The following list has the initial RRL compliance attributes to help incorporate RRL. For courseware, course materials, associated media, and skill delivery to be considered "RRL compliant" the following attributes need to be considered, and in place to the maximum extent possible:

- **Blended Training Solutions that solve gaps in Fleet requirements:** Training solutions must include blended training solutions consisting of multiple modalities (i.e., hands-on training, instructor-led training, and virtual reality training) to provide modernized delivery while ensuring all learners, regardless of modality preference (i.e., some learn better by reading the material, others learn better by practicing in a virtual environment, while others learn better through hands-on application), have a means to best develop the required skills. The training solutions or requirements must be approved or validated by the Fleet TYCOMs or responsible organization as detailed in the rating responsibility graphic.
- **Timing is close to Point of Need:** Training must be evaluated to ensure the timing of training delivery is aligned as closely as possible to the time when the Sailor will be expected to perform the work with limited supervision.
- **Modern Media:** Training software development is a critical part of the readiness drivers that RRL is designed to enhance. To be best utilized and the most effective, the following media attributes include:
    - **Media Scalability: Media should be designed to run on multiple platforms:** Computer, tablet, phone, etc. where practical to provide mobility and reuse.
    - **Approved, Interoperable, and Reusable:** Software used to deliver the training must be approved for use on Fleet (afloat/shore) platform IT systems and intended shore classroom IT systems. In determining operating software environments, consideration should be utilized to ensure interoperability and reusability common standards (e.g., Unity, HTML, Shareable Content Object Reference Model (SCORM) and experience application programming interface (xAPI)).
    - **Immersive/Performance Based:** Training media should be designed to allow the Sailor to perform the procedure or operation being trained and to practice with both "reps and sets" of critical tasks and progressing difficulty.
    - **Expandable:** Before media is developed, analysis should be completed to determine if the media could be used in other applications throughout the learning continuum allowing for spiral development of additional functionality and training capabilities.
- **Scalable:** The training solution must be scalable to provide requisite "stick time" for learners to develop requisite technical skills. For example, the use of computer simulation enables multiple students to practice multiple different scenarios simultaneously whereas, in the past, the use of hot plants as training tools would only

allow one student to practice one watch station under the supervision of one instructor at a time. Scalable solutions permit multiple students to practice various scenarios simultaneously under the supervision of a single instructor (or remotely at point of need using an intelligent tutoring system) to greatly expand training access and to dramatically increase "stick time" both in the school house and at the point of need for use with a SOJT solution or Refresher Training. As part of scalability it should be available to the maintenance person or maintenance community for use as a maintenance aid that is both standalone or imbedded within or linked to technical manuals or PMS documentation.

- **Progressive:** Developed training must build skills in a logical manner, permitting students to learn basic concepts through the use of computer simulation. Instructor-Led Training (ILT) in a classroom then builds upon those concepts, and is followed by the exercise or application of derived knowledge (basic or fundamental application) in an autonomous virtual environment through an Intelligent Tutoroing System (ITS). In order to develop higher-end applied skills, students would then participate in instructor-led simulation, followed by a capstone event for performance demonstration and assessment. Conducted in a simulated or live environment, the capstone event allows the student to demonstrate skill mastery that draws all of the threads and major elements of the learning together, and refreshes knowledge gained since the first day of training. Not all steps or phases of this process are required for skill attainment. The process is flexible, and will vary depending on the course materials and targeted skills.

- **Applicable:** The training solution must support the Sailor's entire career, and be aligned to, or support the established rating learning continuum by providing the training as close as possible to the points of need throughout a Sailor's full career which can be 30 years. As with skill attainment, the development of major competencies takes place progressively across a learning continuum as students advance from apprentice-level competencies to journeyman-level competencies to advanced, master-level competencies with the right amount of training being provided (or accessible) at the right time in the right amount to facilitate skill development. The goal of each learning continuum is to develop sound decision-making skills that permit Sailors to address circumstances that they may have never seen before. They will have the tools to make correct, sound decisions in the absence of complete and perfect information because of the learning they have received.

- **Supportive:** Learning is aligned with and directly supports the completion of required Personnel Qualification Standards (PQS) for watch station qualification. The learning should be designed to facilitate and accelerate the existing qualification process by providing the necessary learning 100 series (fundamentals), 200 series (systems), and 300 series (skill demonstration) PQS requirements, thus permitting Sailors to qualify faster.
- **Assessable:** Developed training includes a robust assessment process to periodically evaluate knowledge and skills throughout the learning process, helps to identify weak learning areas, and tailors remedial training to enable the attainment of required skills.

3.4 Relationship to System Training Acquisition

The Naval Training Systems Requirements, Acquisition, and Management instruction (OPNAVIST 1500.76 (Series)) establishes policy for planning, determining, and documenting Manpower, Personnel, and Training (MPT) requirements across the Navy to include apprentice, journeyman, and master level training. A subcomponent of the instruction is the Manpower and Training Requirements Planning (MTRP) section. The MTRP communicates the "who," "what," "where," "when," and "how" strategy needed to develop and integrate sustainment requirements into system design, development, testing, fielding, and operations/support. The focus is to maintain the readiness of a system and describe the role the human plays to make the system mission capable.

The OPNAVINST 1500.76 (Series) examines Manpower, Personnel and Training (MPT) requirements from the perspective of individual platforms, systems or "system of systems," to ensure operation and maintenance tasks are trained until the system is modified or replaced. As such, the training recommendations identified within a Navy Training System Plan (NTSP) are "system" focused. Lacking a detailed rating career-long learning continuum, NTSP training solutions have historically resulted in only Journeyman level course development for operations and maintenance to ensure lifecycle readiness of the specific system.

Following OPNAVINST 1500.76 (Series), a Front End Analysis (FEA) is developed identifying system tasks that require training. All operator and maintainer (both preventative and corrective) tasks are captured to feed the overall system training analysis resulting in a final training solution recommendation. This method provides stakeholders with a holistic view of overall training requirements for a specific system. Many media-rich, technically advanced training systems have been fielded following OPNAVINST 1500.76 (Series) that meet characteristics outlined within the RRL vision and the intention is to continue alignment with the RRL processes and methods that are currently beginning to be realized.

The RRL vision takes the media-rich training a step further with a rating-centric perspective that identifies holistic training requirements (inclusive of applicable system NTSPs). The two processes (OPNAVINST 1500.76 (Series) and RRL) must interface and complement each other where applicable to align system training into the appropriate portions of the RRL rating career-long learning continuum. Training developed to support a specific rating could include pieces of several system tasks. By examining training through the rating lens, stakeholders have a more holistic look at a rating continuum from recruit to retirement and ensure Sailors receive the right training at the proper points in their career. This perspective also ensures Sailors have the prerequisite knowledge and abilities to advance to the next piece of the learning process. The Rating Domain Analysis (RDA)/Functional Requirements Document (FRD) process, discussed in Section 5, validates that all applicable FEAs and NTSPs are included as input for analysis. Conversely, SYSCOM (or Training Support Agents [TSA]) should ensure that the latest FRDs for all applicable ratings assigned to the system are used as input to new FEAs and NTSPs in development efforts. Strong connection and synergy between these requirement documents are essential for developing effective Sailors and sustainable readiness.

Training requirements developed by a SYSCOM (or TSA) traditionally focused on placing training immediately prior to an operational tour (i.e., traditional 'A' and/or 'C' School). There is currently no requirement in OPNAVINST 1500.76 (Series) to place training at the specific point

of need within a Sailor's career continuum nor a requirement for refresher training to reinforce required knowledge and skills. NTSP and FEA traditionally state that training must go into existing schoolhouse training (either as part of an existing course or a new course) as part of their Apprentice, Journeyman, and/or Master timeline without the required analysis of the proper timing of the training segments to ensure the training is closely aligned in a training event to the time when the work will be conducted.

The RRL process places a great deal of emphasis on aligning training as close to the point of need as possible in order to maximize retention through near-term application of skills. NTSPs rarely require billet centric training during operational tours, instead driving training between assignments. The RDA focuses on determining the best time in the career continuum for all required training tasks. The result can be several modules or blocks within a single tour or over multiple tours with increasing difficulty and scope. Additionally, based on the timing of the training segment, the training media should be developed to be mobile so that it can be used on multiple devices. Mobility will support bringing training to the waterfront or platforms where practical. The Media and Fidelity Analysis (MFA) process determines how the training should be delivered and guides media selection to identify the best training solution while taking into consideration the type of work being taught, the timing of when the training will be needed and location where it will be used.

OPNAVINST 1500.76 (Series) is being updated to include several key steps from the RRL process. The RDA, MFA, and Feasibility Analysis sections found in Section 5 of this manual should be used to ensure the RRL vision is incorporated when new or modified system training is being developed for inclusion in a rating career-long learning continuum. They will also be required as part of the updated 1500.76 (Series) MTRP process.

Another area of alignment between the RRL processes and the OPNAVINST 1500.76 (Series) is use of a Training Effectiveness Evaluation Plan (TEEP). The TEEP should be interrelated by rating and system to ensure individual performance measures and impacts to readiness are accurately measured for both system health and Sailor capability. It is universally understood that the Kirkpatrick Model provides the best methods for performance to readiness measures, however the measurement parameters may change depending on specific rating/system training.

Beginning in the next section, and throughout the rest of the manual, each of the process steps are broken down further and explained. Where outside references are established, the sections are brief with the reference provided. Stakeholders' roles are provided to aid in coordination and communication.

4.0 Phase I – Triggering Events

4.1 Introduction

The Navy operates in a highly dynamic environment. Therefore, change is a constant and needs to be accounted for. Whether due to a system configuration change, new equipment installation, new personnel requirement, safety/performance trend, or other input, the triggering event may change training content or instruction methodology. The integration of triggering events into the Ready Relevant Learning (RRL) Process are shown in Figure 4-1: Phase I – Triggering Events.

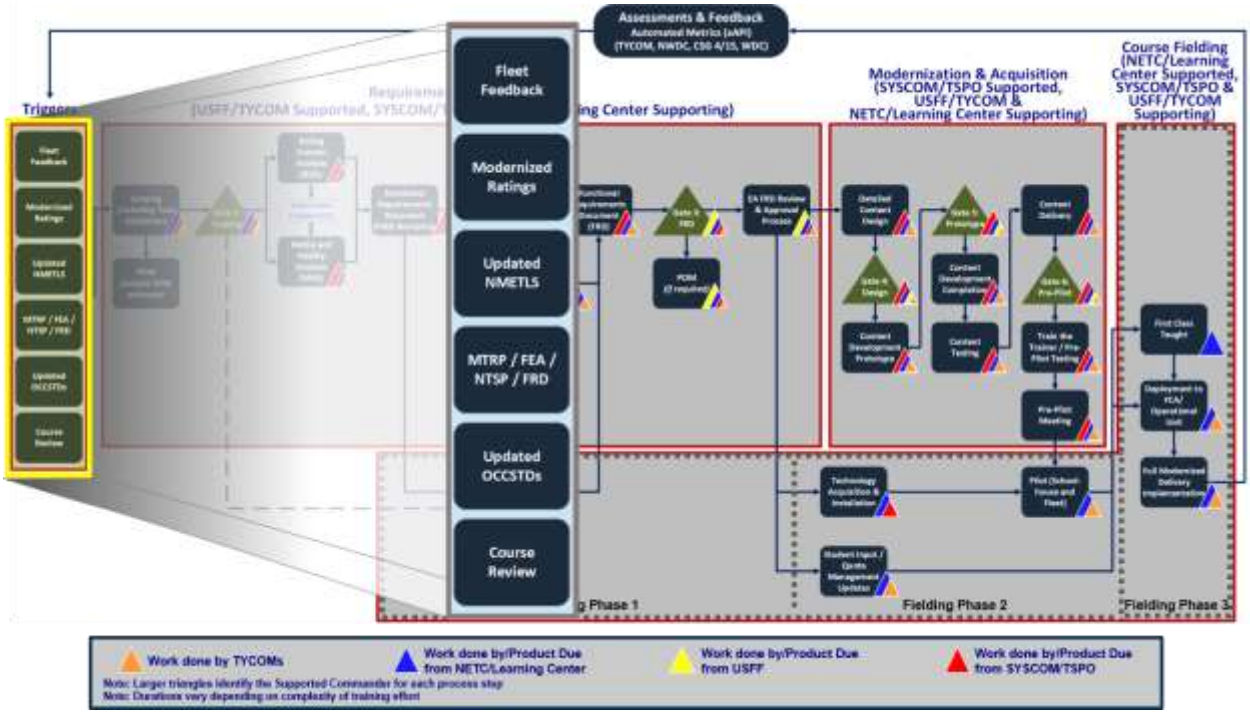


Figure 4-1: Phase I – Triggering Events

Phase I of the RRL Modern Delivery "To Be" Process serves as the triggering mechanism that initiates the development of training materials for Sailors. The long-term vision for RRL includes the preservation of current training techniques when possible, while implementing a significant evolution in the approach to Sailor development that is deeply rooted in the science of learning. Events such as newly installed systems/equipment, previously identified technical deficiencies, or changes in Navy leadership's vision for naval education and learning, may lead to new or revised training requirements.

It is imperative that Type Commanders (TYCOMs), NETC, Learning Centers, and Program Offices monitor triggering events and assess impacts to the career progression timeline for Sailors. The current curriculum should be assessed to ensure Sailors receive the most current training that is available. Delivery of outdated curriculum may result in Sailors' inability to effectively operate or maintain their systems, thereby negatively affecting Fleet readiness.

Continual assessments are critical to maintaining effective and accurate training. Assessments will be discussed in more detail in Section 8 Phase V – Assessments & Feedback (High Velocity Learning).

Assessment of the current curriculum will determine if an impact on training exists. If an impact on training is found, analysis will take place on specific requirements to determine the risk to mission if the training is not updated, and the required changes that should be made to ensure the required training is available at the point of need.

Trigger Stakeholder(s):

Organization	Role
USFF	Executive Agent
TYCOM	Supported - Fleet Requirements Approval
NETC/Learning Center	Supported - Training Requirements Approval
OPNAV N1, High-9s and N2N6	Requirement Validation and Resourcing
SYSCOM/TSPO	Supporting - Training System Acquisition

Trigger Reference(s):

- OPNAVINST 1500.76 (Series)
- OPNAVINST 5102.1 (Series)
- Navy Enlisted Occupational Classification System (NEOCS) Manual Vol. I
- Navy Enlisted Occupational Classification System (NEOCS) Manual Vol. II
- Navy School Management Manual (NAVEDTRA) 135
- Navy Tactical Reference Publication (NTRP) 1-03.5
- Naval Education and Training Command Instruction (NETCINST) 1500.19 (Training Requirement Submission, Course Development, Delivery, and Maintenance End to End Process)

Trigger Input(s):

- Fleet Feedback (e.g., casualty reports, Inspection and Survey [INSURV] reports, Safety Center reports, post mission analysis, etc.)
- Modernized ratings (e.g., result of rating mergers/consolidation, and RRL Functional Requirements Document(s) (FRDs), etc.)
- Updated Navy Mission Essential Task List (NMETL) (e.g., changes to mission, contribution, progression, courses of action, etc.)
- Navy Training System Plans (NTSP) and Front-End Analysis (FEA) (e.g., changes as a result of annual review, Ship Change Document (SCD), maintenance philosophy, etc.)
- Updated Occupational Standards (OCCSTDs) (e.g., changes to rating standards, duties, and responsibilities, etc.)
- Course review (e.g., result of formal course review, introduction of new systems, or negative trend(s) indicated by training quality indicator, etc.)
- Navy leadership’s vision for Naval education and learning

Trigger Output(s):

- TYCOMs notify Naval Education and Training Command (NETC)/Learning Center via Memorandum for the Record (MFR) to initiate Phase II Scoping process.

5.0 Phase II – Requirement Development

5.1 Introduction

Phase II – Requirement Development determines "what, when, how, and where" of the training for the rating undergoing analysis. The output of Requirement Development is a Type Commander's (TYCOM's) endorsed Ready Relevant Learning (RRL) executive agent approved rate training solution in the form of a Functional Requirements Document (FRD). This document provides the Total Lifecycle Cost Estimate (TLCE) estimate of the needed change to training and defines what exactly is being procured to support and sustain the agreed upon solution. The steps included in Phase II are shown below in Figure 5-1: Requirement Development.

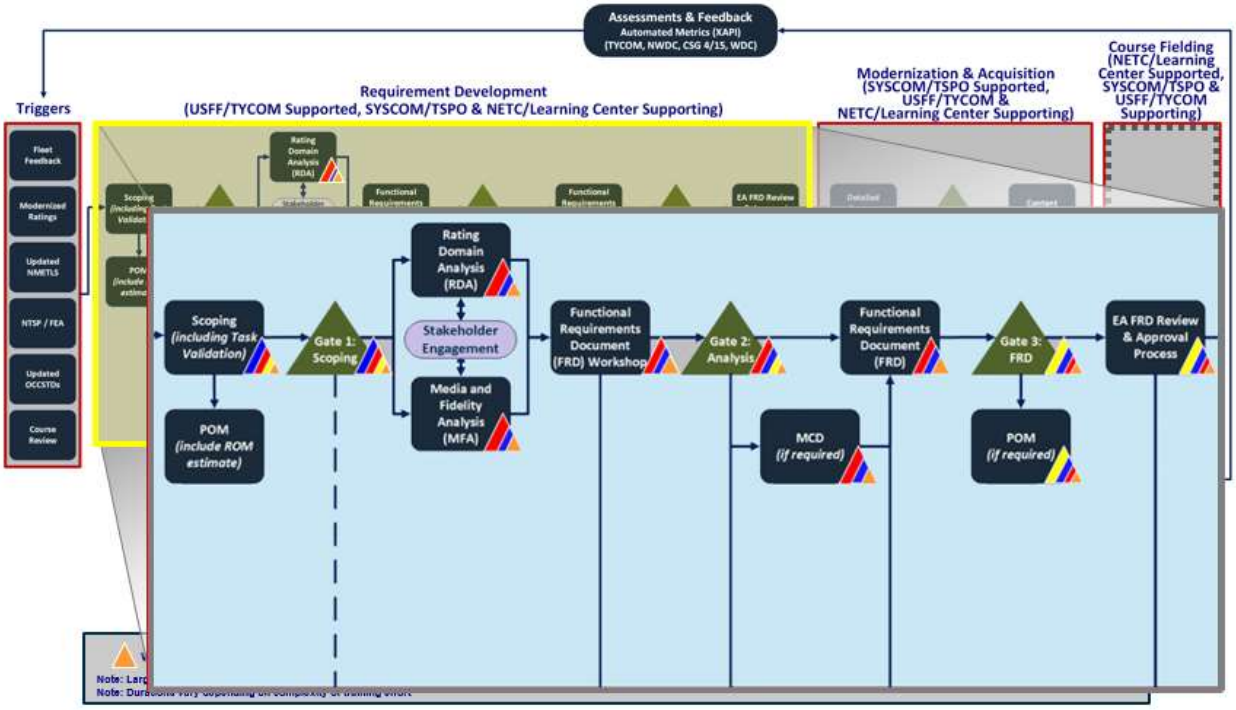


Figure 5-1: Phase II – Requirement Development

The starting point for requirement development is scoping which determines the parameters and boundaries to be analyzed. The importance of proper scoping cannot be overemphasized because if done without sufficient canvassing, the remaining requirement development work may be based on improper assumptions. Outdated/inaccurate data, overlooking reuse, and forgoing leveraging existing efforts will delay the process and lead to costly rework, duplication efforts, and training gaps.

During Rating Domain Analysis (RDA), the tasks are aligned to the time when the work is expected to be accomplished. Desired timing must ensure that training is completed prior to the actual work accomplishment, but not so far in advance of the work to introduce atrophy. Based on the proven limits of the science of learning, three to six months prior to actual work

completion is typically optimal. Virtual training should be designed as reusable media solutions (i.e., "job aid") enabling completion of work at the precise time of performance. During RDA it is also important to begin thinking about "where" the training will be delivered – aboard the platform during work accomplishment, in a schoolhouse, or independently at no specific time or place.

Media and Fidelity Analysis (MFA) determines how training will be conducted. Broader than just media, platform specific hardware with media stimulation in the form of training unique devices, actual platform specific technical training equipment, laboratory equipment, and Interactive Courseware (ICW) levels 1-4 are all potential training solutions that should be considered during MFA. Other important considerations are the reusability of the solution. High-end media solutions such as immersive real-world or virtual world solutions should be designed to be expanded into other areas of the rating continuum, within other ratings' learning continuums, or be designed for increasing difficulty and capstone training to justify the additional cost associated. Analysis and design outputs also aid the TYCOMs in determining the preferred training locations, based upon delivery method and portability. If the learning objective can be met with a fully virtualized solution then that solution is preferred for flexibility of training over a hardware solution. If hardware is required, it is preferred that the brick and mortar schoolhouse laboratory is located as close to the majority of performers as possible to minimize Fleet impacts.

After the RDA and MFA are complete and validated by the TYCOM subject matter experts, NETC/Learning Centers can begin feasibility. While contained within the "Fielding" portion of the process map, feasibility analysis is a critical piece to ensure the execution of FRD proposed requirements. For schoolhouse designated training, the training location, delivery system, planned throughput and instructor requirements are analyzed to ensure the desired solution can be fielded. Changes to the desired solution may arise if it is determined that the training cannot be fielded due to space, cost or instructor manpower considerations. If a developer is not thinking about when, how and where, the developer is missing critical elements of the RRL Strategy.

5.2 Phase II - Requirement Development Phase

The Requirement Development phase is initiated by a trigger forcing analysis of the current training content which may result in the addition of training requirements. However, the analysis may prove that no further action should be taken, and training should remain the same.

The input to the Requirement Development process is the task analysis that is validated during scoping. During the task analysis process data is collected on work performed in the Fleet. The work will be described more comprehensively by applying the appropriate task attributes, Training Task Analysis (TTA) data, existing interventions, and Knowledge, Skills, Abilities, Tools, and Resources (KSATRs) to the work at the task level. All tasks that are being evaluated for training are derived from approved source documentation, when available. Source documentation may be in the form of Personnel Qualification Standards (PQS), technical manuals, preventative maintenance system procedures, or operational procedures similar to Navy Training System Plans (NTSP) development. For rating managerial and leadership training, source documents may also include Navy instructions, policy documents or guidance provided by Navy or higher authority programs.

The output of requirement development is an executive agent approved FRD. The FRD serves as an acquisitions document outlining the products that will be purchased during content conversion. The document provides all rate training paths and proposed modernized instructional strategies, media, timing of training, and begins to build a preliminary career-long learning continuum.

Requirement Development Stakeholder(s):

The rating stakeholders and leads are identified in Appendix (H) for coordination of multiple reviews and adjudication throughout the process.

Organization	Role
USFF	Executive Agent - Requirements Approval Authority
TYCOM	Supported - Fleet Requirements
NETC/Learning Center	Supporting - Training Requirements
OPNAV N1, High-9s and N2N6	Requirement Validation and Resourcing
SYSCOM/TSPO	Training System Acquisition

Requirement Development Reference(s):

- RRL Business Rules - US Fleet Forces (USFF) Command
- Technical data - System Commands (SYSCOM)
- Modernization/upgrade plan(s) - SYSCOM
- Occupational standards (OCCSTDs) - Navy Manpower Analysis Center (NAVMAC)
- Career Path (Leadership and Development Roadmaps [LaDR]) - Navy Personnel Command (PERS)
- Associated PQS/watch station - NETC/Learning Centers
- Credentialing (Navy Credentialing Opportunities On-Line [COOL]) - NETC
- Job Duty Task Analysis Management Manual (NAVEDTRA 137)

5.3 Scoping

The purpose of the Phase II Scoping step is for all stakeholders to establish the overall status of a rating to determine what level of effort is needed during requirement development. Validating the task analysis and gap analysis between what is currently taught and what needs to be taught define the scope for requirement development. The importance of proper scoping cannot be overemphasized because if done without sufficient canvassing, the remaining requirement development work may be based on improper assumptions. Outdated or inaccurate data, overlooking opportunities to reuse, and not leveraging existing efforts will delay the process and lead to costly rework and duplication efforts. Additionally, one of the outputs of scoping is rough order of magnitude cost for developing the training system and solution to support training gap solutions. This step of Phase II is shown in Figure 5-2: Scoping.

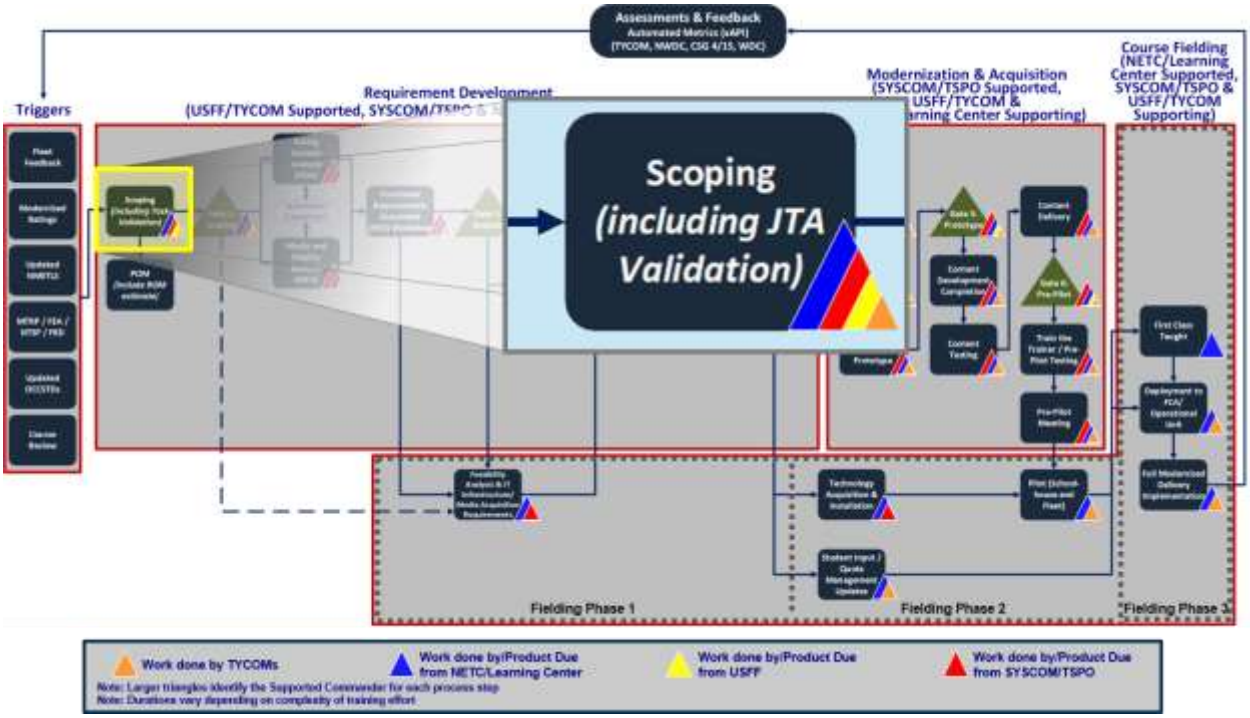


Figure 5-2: Scoping

To successfully scope a rating, all stakeholders are identified and documented as members that will participate throughout the duration of the requirement development/content modernization process. All meeting minutes will be documented and all action items will be tracked to closure.

Scoping meetings should be held at the learning sites where the training is currently delivered, notionally 60 days in advance of the first scheduled modernization event. This information is critical to ensure the performing activity has the current course version and updated Government-Furnished Information (GFI) before conducting any workshops or analysis events for a given rating or rating training path. Proper scoping eliminates rework that can negatively affect cost, schedule, and performance of the modernization effort(s). Scoping meetings are required to ascertain the current state of the rating to be analyzed through review of all GFI, current course documentation, and training documents discussed below.

Validation is required for the current course versions and training paths. All training tasks will be validated by the scoping stakeholder. This will ensure the correct Course Identification Number (CIN), learning objective count, path name, and Navy Enlisted Classification (NEC) as well as technical data are included. System engineers in the technical community should be consulted to ensure technical accuracy.

The most recently approved OCCSTDs will be used to conduct rating analysis. Validation of the OCCSTDs prior to analysis minimizes rework and provides a starting point to help identify all work performed by a specific rating. Rating analysis can lead to the creation of new OCCSTDs, an update to the existing standards, or a complete rewrite of the OCCSTDs.

Validating the current task analysis for a rating is important to decide what work is being done to support content development. Data is collected by reviewing KSATRs required to complete the work.

Hardware/equipment, classroom, and lab requirements for as-is training must be validated and included in the task analysis when required for the new training solution. The on-hand inventory and equipment status, classroom, and labs will provide documentation for what items require updating and what can be repurposed. Since some ratings share courses or have similar training, scoping should identify hardware/equipment, classroom, and lab requirements so they are developed once and used commonly for all similar ratings. Every effort should be made to maximize, reuse, and repurpose existing training material.

As-is training media and equipment through rating learning continuum will be validated. Media or equipment, if found relevant, may be repurposed and reused. Some ratings share courses or have similar training. This should be identified during scoping so media or equipment is developed once and used for all similar ratings.

All GFI should be validated. GFI will include all course materials previously discussed, reference documents, technical manuals, and any other information provided by the government for the requirement development phase. This will ensure all information used to develop the training requirement is the most current.

RRL business rules (see Appendix I) were drafted by stakeholders to align stakeholder efforts. The following RRL business rules will be applied during the scoping process:

- BR001: Courses sundowning within three calendar years will be excluded from RRL modernization. Courses planned for sundowning within three to five years will be evaluated on a case-by-case basis and require the Learning Center, NETC, and TYCOM concurrence to be excluded from RRL modernization.
    - There is some risk in excluding courses in the three to five year window because sometimes the reason for sundowning a course may not materialize (i.e., funding for the replacement system is cut).
- BR002: Courses with low throughput (less than 25 students per year) will be evaluated on a case-by-case basis and require the Learning Center, NETC, and TYCOM concurrence to be excluded from RRL modernization.
    - These are typically courses that will sundown within five years, but also may be courses that are not essential to readiness or that are outdated.

- BR003: Courses that are not under NETC ownership will not be evaluated for RRL modernization unless the proper coordination has occurred with the course owner (BUMED, other service, etc.), and the RRL Executive Steering Committee (ESC) has reviewed and approved the rating for inclusion in the modernization effort.
    - An example includes CTR and CTT ratings, which are owned by the National Security Agency (NSA). Additionally, this rule would apply to courses still under acquisition program development, and once transitioned to NETC these courses would be eligible for evaluation.
- BR004: Courses outside a rating's accession training pipeline will not be included in RRL modernization until such a time that the RRL program begins formal evaluation of journeyman and master learning continuums with technical and professional training.
    - C Schools in the accession pipeline would be evaluated, however those that are currently "F" and "C" schools designed for Fleet returnees will not be evaluated during RRL Accession Level Modernization unless specifically tasked.
- BR005: The training community (NETC/Learning Center/TYCOM/Resource Sponsor/SYSCOM/TSPO/Program Office) will not initiate course revisions after the start of RRL Rating Analysis efforts without coordination and approval by the ESC.
    - Multiple course revisions running concurrently can cause confusion and duplication of efforts, wasting valuable time and funding.
    - Emergency or safety changes will be implemented immediately and briefed to the ESC.

Finally, any new training requirement must incorporate all tasks into the validated task analysis to support RDA and MFA decisions. At this point the draft TLCE Sheet (Appendix G) could be completed to support any request for funding that may be required. Once the task analysis has been completed it is ready for TYCOM validation of training requirements.

Scoping Stakeholder(s):

Organization	Role
USFF	Executive Agent
TYCOM	Supporting - Fleet Requirements Approval
NETC/Learning Center	Supported - Scoping
OPNAV N1, High-9s and N2N6	Requirements Validation and Resourcing
SYSCOM/TSPO	Training System Acquisition

Scoping Reference(s):

- RRL Business Rules - USFF
- RRL Scoping SOP - NETC
- Technical data - SYSCOM
- Modernization/upgrade plan(s) - SYSCOM
- NAVPERS 18068F - Volume 1 (OCCSTDs)
- NAVPERS 18068F - Volume 2 (NEC manual)
- Career Path (LaDR) - PERS
- Associated PQS/watch station - NETC/Learning Centers
- Credentialing (Navy COOL) - NETC
- Job Duty Task Analysis Management Manual (NAVEDTRA) 137

Scoping Input(s):

- Rough schedule
- Resources available
- Identify other training development efforts
- Identification of stakeholders
- Orientation meeting
- GFI validation
- OCCSTD(s) validation
- Training requirements review
- Training status
- Ratings identified for modernization
- Training path framework (courses, NECs, logistics)
- Stakeholder coordination (TSPOs, community managers)
- Identified common courses/components for multiple ratings
- Associated NTSPs
- Ship change document(s)/integrated logistics support certification(s)
- Legacy equipment list(s)
- Legacy course artifacts including task analysis
- Facility surveys

Scoping Output(s):

- Draft Total Lifecycle Cost Estimate (TLCE) Sheet
- Integrated Government Schedule (IGS)
- Stakeholder point of contact (POC) list
- MFR (Developed by NETC)
- Validation of legacy training equipment/infrastructure
- Project scoping document
- List of GFI/contractor furnished material for the project
- Validated task analysis
- Lesson Plans (LP)

5.4 Gate 1 – Scoping

The purpose for the Scoping Gate review is for stakeholders to establish the overall status of a rating to determine the level of effort needed for requirement development. Stakeholders should be documented in the MFR and will participate throughout the complete requirement development process. This meeting will establish communication processes for requirement development.

The Gate 1 or Scoping Gate serves as the O-6/GS-15 level review and approval of scoping by stakeholders so requirements analysis can begin. NETC will document all meeting minutes and provide a Memorandum for the Record (MFR) to include any identified action items. Documentation of action items is important to ensure all outstanding tasks are completed. The primary TYCOM will provide concurrence to Gate 1 by signing the MFR. Changes to scope after Gate 1 approval cause significant downstream impacts. Any changes to scope after Gate 1 must be documented via MFR signed by the Lead TYCOM and must be approved by the RRL ESC. Changes to cost, schedule, or performance must be presented for review. This step of Phase II is shown in Figure 5-3: Gate 1 - Scoping.

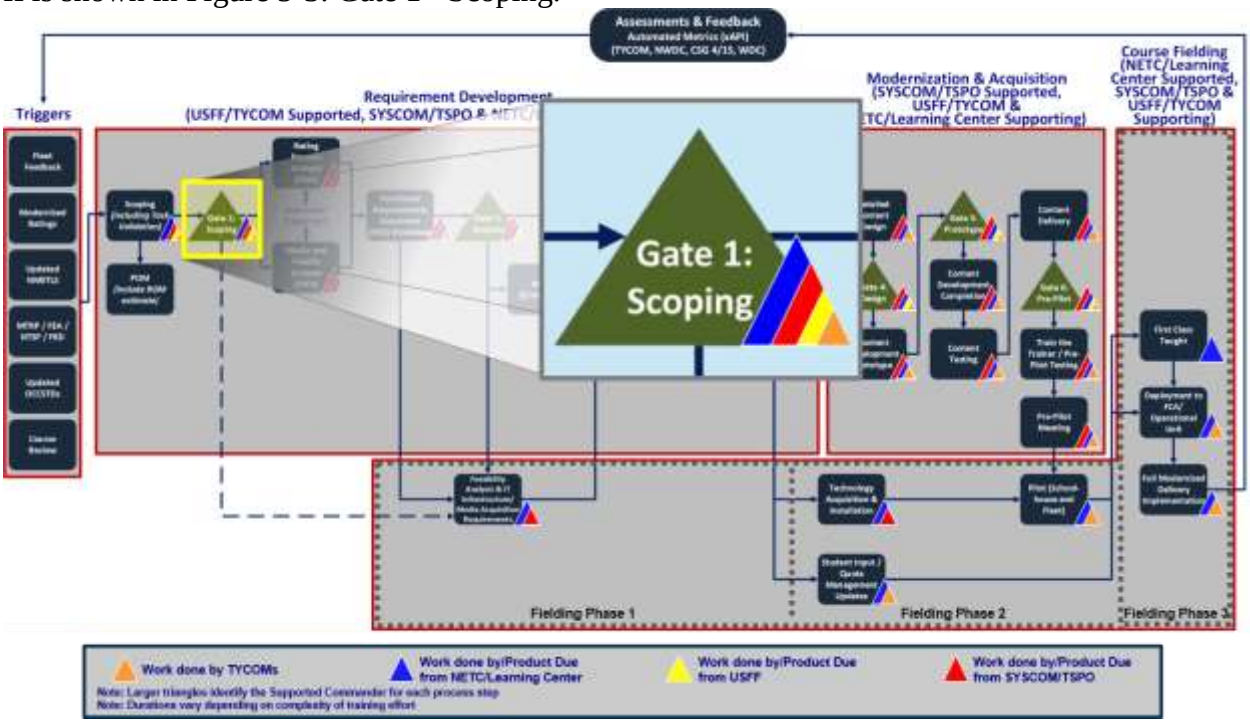


Figure 5-3: Gate 1 - Scoping

Gate 1 – Scoping Gate Stakeholder(s):

Organization	Role
USFF	Executive Agent
TYCOM	Supporting - Requirement Scope Approval
NETC/Learning Center	Supported - Scoping Gate Coordinator
OPNAV N1, High-9s and N2N6	Requirements Validation and Resourcing
SYSCOM/TSPO	Training System Acquisition
NAVMAC	Supporting
Enlisted Community Manager	Supporting

As the Scoping Gate Coordinator, NETC/Learning Center is responsible for the administration of the gate review. The rating stakeholders and leads identified in Appendix (H) are invited; however, the lead TYCOM will provide the approval when required. Entrance criteria consists of the data collected, analysis completed, or documentation to be discussed at the meeting. The entrance criteria items will be used to make decisions on the approval of the gate artifacts. The exit criteria provides all documentation required and where to find the exiting gate review. A checklist for Gate 1 can be found in Appendix (F).

Gate 1 Coordinator: NETC/Learning Center

Approval Authority: Lead TYCOM O-6/GS-15

Focus of Review: Per rating.

Purpose of Gate 1 is to provide O-6/GS-15 level review and approval of rating scoping artifacts:

- Paths to modernize
- Courses within paths
- Course versions/revisions
- Current version of occupational standards
- JTA/JDTA data
- JTA/JDTA and learning objective crosswalk
- LO traceability matrices
- Pending TRR action
- Identify commonalities with other ratings or across training paths that have implications for reuse

Key Events:

- Establish scope
- Verify team membership

Gate 1 - Entrance Criteria:

- JTA/JDTA completed and verified to be accurate, current and relevant by the TYCOM

- Modified formal course review complete; planned course revisions/TRR action(s) identified with recommended way ahead
- Current course versions validated and aligned to the JTA/JDTA
- Courses and training paths within scope (in accordance with RRL business rules)
- Commonality matrix secured and commonalities identified

Gate 1 - Exit Criteria:

- All requests for action from the gate review are closed
- Rating to rating or across path commonalities are identified and documented
- Draft Total Lifecycle Cost Estimate
- The following minimal data is uploaded to the Manpower, Personnel, Training and Education (MPTE) Portal:
    - JTA data
    - Training Course Control Documents (TCCD)s
    - LPs
    - Training Guides (TG) (job sheet and performance sheets)
    - Task to learning objective matrix
    - Traceability Matrix
    - OCCSTDs
    - Lead TYCOM O-6/GS-15 approved gate MFR

5.5 Rating Domain Analysis (RDA)

The purpose of the RDA step of Phase II is to identify when training should occur while sequencing the work elements a Sailor is expected to perform to determine the ideal point to deliver RRL content on the training continuum. The analyst generates initial Career Progression Timeline (CPT) for each of the rating's unique training paths using OCCSTDs. CPTs are generated for each training path since work variations exist across platforms and environments. The RDA process documents a Sailor's job responsibilities across his or her career in order to deliver training closer to the time of need. This is intended to increase learning transfer and decrease skill decay. This step in Phase II is shown in Figure 5-4: Rating Domain Analysis (RDA).

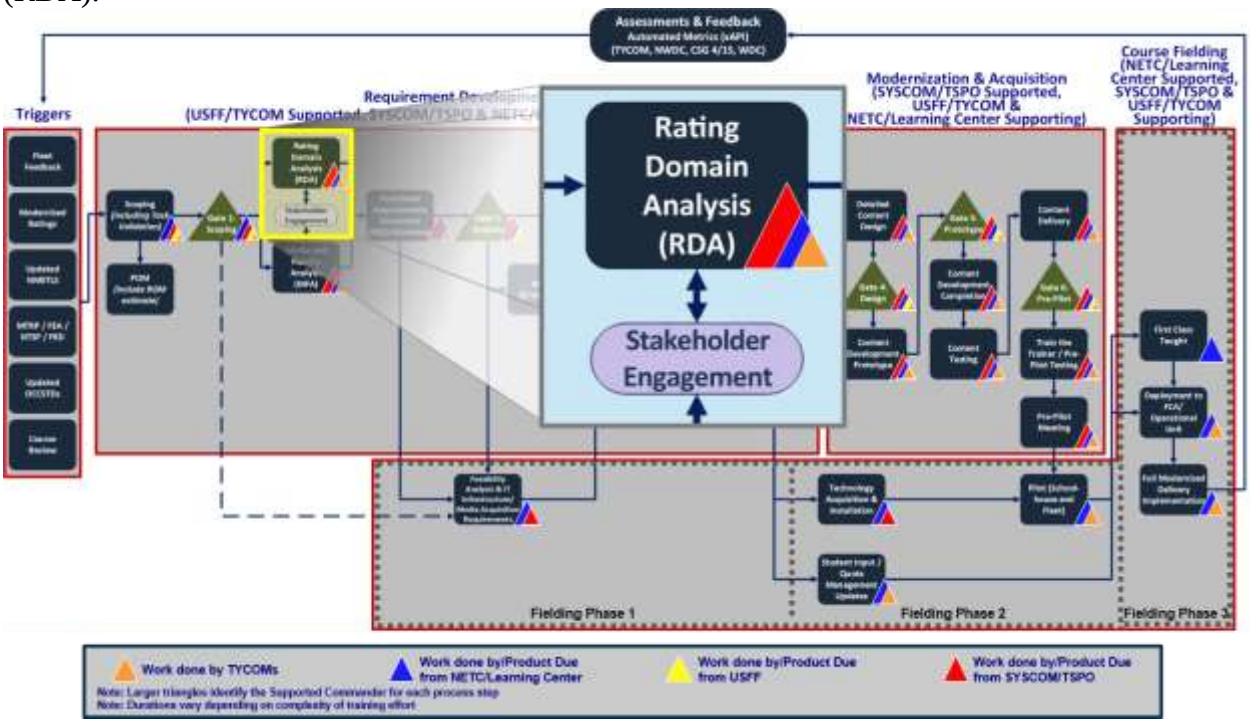


Figure 5-4: Rating Domain Analysis (RDA)

The output of the RDA is an RDA workbook. If training (one or more courses) is shared between two different training paths or ratings, the RDA analysis must be conducted for each training path or rating. An RDA workbook is constructed by the performing activity primarily through conducting data collection workshops with Fleet subject matter experts (SMEs) and by reviewing rating-specific documentation. SMEs should range from E-5 to E-9 with NEC experience where applicable. TYCOM representatives, Learning Center instructors, enlisted community managers, course curriculum model managers, and learning standards offices are integral participants in the RDA process, both contributing to and approving the final RDA workbook. The workbook is an Excel document that contains the following tabs:

- **Cover Page:** Includes the name of the rating the RDA analysis was completed on
- **Workshop Info:** Includes the workshop location, date, and SMEs in attendance
- **Instructions:** Provides more information about the components of the RDA workbook

- **Rating - CPT:** Illustrates all work expected of a Sailor within a specific rating/training path throughout his/her career based on OCCSTDs
- **Learning objective-to-work element alignment:** Fleet SMEs map all training learning objectives to the work element(s) each supports. The learning objective is aligned with the work element it most supports ("best fit"). Any additional learning objective-to-work element associations are included.
- **Potential training gaps:** Work elements may have been reported as having no learning objectives from courses to support them. With no training support, these work elements represent potential gaps in training and should be documented in the FRD.
- **Potential overtraining:** During the RDA workshop, learning objectives may have been reported as having no work elements from courses to support them. These learning objectives will be recommended for deletion.
- **OCCSTDs proposed changes:** During the RDA workshop data gathering, new OCCSTDs or changes to existing OCCSTDs are captured. The proposed changes are fed back to NAVMAC.

To determine the correct point of need for training, factors such as criticality, difficulty, and frequency should be examined when determining the timing of training tasks. SMEs use a validated task analysis to map tasks on a CPT to recommend time of training to ensure Sailors receive training closer to the point of need in order to increase learning transfer and decrease skill decay.

All SME comments must be documented in meeting minutes and provided to stakeholders upon request. Performing activities must adjudicate all SME comments and update documents accordingly.

Rating Domain Analysis (RDA) Stakeholder(s):

Organization	Role
USFF	Executive Agent
TYCOM	Supporting - Fleet timing requirement Approval Authority
NETC/Learning Center	Supporting
SYSCOM/TSPO	Supported - RDA Development

Rating Domain Analysis (RDA) Reference(s):

- Military Handbook (MILHBK) - 29612-DoD
- Technical data - SYSCOM
- Modernization/upgrade plan(s) - SYSCOM
- NAVPERS 18068F - Volume 1 (OCCSTDs)
- Associated PQS/watch station - NETC
- Credentialing (Navy COOL) - NETC

Rating Domain Analysis (RDA) Input(s):

- Approved Project Scoping Analysis Agreement and associated action items
- Legacy course artifacts (including TTA and updated learning objective list)
- SMEs

Rating Domain Analysis (RDA) Output(s):

- RDA Workbook

5.6 Media and Fidelity Analysis (MFA)

The purpose of the MFA step of Phase II is to determine how training will be delivered. If training (one or more courses) is shared between two different training paths or ratings the MFA is only conducted once, and that information can be reused. The appropriate media is selected based on media attributes that enables the effective training of a task to prepare a Sailor to perform on the job. The MFA data specifies elements that a Sailor needs to be able to hear, see, feel, etc. in order to accomplish the learning objective. This step of Phase II is shown in Figure 5-5: Media/Fidelity Analysis (MFA).

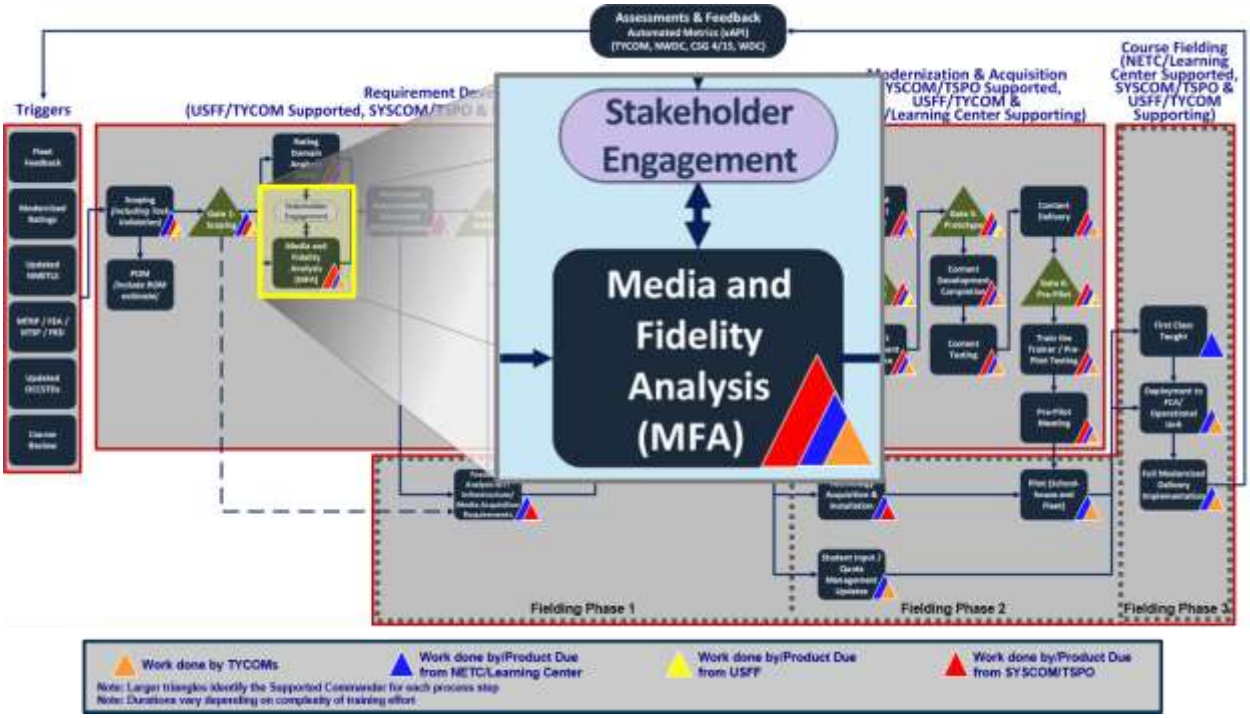


Figure 5-5: Media/Fidelity Analysis (MFA)

The MFA must determine the most effective method and modality for each training task and learning objective. Based on the initial findings from the RDA, analysts must examine available and emerging instructional media technologies to select the most appropriate delivery method for each task in order to optimize training effectiveness, based on science of learning principles as well as environmental and cost constraints.

The RRL Vision and Guidance defines four broad categories that may be appropriate solutions for each task and learning objective:

- **Instructor-Facilitated Interactive Training (IFIT):** A more traditional training set in a classroom or lab and lead by an instructor. IFIT can also be recommended for delivery before or after a Sailor is at his or her first assignment.
- **Self-Directed Interactive Training (SDIT):** A content delivery mode that encompasses a more complex type of content that supports refresher training, skill expansion, new system or procedure familiarization, or part-task training. SDIT is designed to be used as reference or for short episodic training that is accessible just prior to a Sailor's need.

Highly effective and engaging content, delivered via distributed systems such as NeL or mobile applications, can take the form of part task training apps on a mobile device or an adaptive simulation on a virtual desktop.

- **Structured On-The-Job Training (SOJT):** A content delivery mode where minimally structured content is used for training and qualifying accession Sailors. SOJT is facilitated by experienced and supervisory Sailors. Utilizing a cornerstone of Navy Fleet training culture but providing standardized and mission specific content, SOJT is effective and efficient without removing the Sailor from the work environment. SOJT can take the form of a checklist to be signed off by the supervising Sailor after observing or assessing the Sailor's performance. Job aids or prerequisite knowledge can be embedded or linked for the qualifying Sailor.
- **Performance support:** A content delivery mode where content is accessible and useful at the time of need, tailored directly to the activity being supported. Performance support is designed as on-the-job performance support for use in the operational environment, but it can also be used in a training setting via a Learning Management System (LMS) as training support or supplemental training materials (e.g., as a reference, resource or condition statement). Performance support can take the form of a basic checklist, tables (arrays), annotated diagrams, interactive media providing additional reference to procedures, or how-to videos. Multiple performance support media can be embedded within training content to support learning objectives.

Training may be presented in various types of media solutions. A particular training medium may be best suited to a particular content delivery mode, while others may be suitable for several. Media vary in maturity; some are cutting edge, while others will need more development, refinement, and bandwidth to be practical in a current or near-term shipboard environment. Table 5-1 reflects a solution set of media types that encompasses the aforementioned content delivery modes that support the RRL effort, as identified in the FRD and Military Characteristics Document (MCD).

Typical media mentioned in terms of RRL include:

Media	Delivery Method				
			Performance Support		
	IFIT	SDIT	In Training Environment	In Operational Environment	SOJT
Actual Equipment	X	X	X	X	X
Augmented Reality	X	X	X	X	X
Checklist	X	X	X	X	X
Decision Tables	X	X	X	X	X
Demonstration Animation	X	X	X	X	X
Demonstration Video	X	X	X	X	X
Full System Trainer	X	X	X	X	X
Hybrid Mobile App	X	X	X	X	X
Immersive Virtual Environment (IVE)	X	X			X
Job Aid	X	X	X	X	X
Level 1 ICW	X	X	X	X	X
Level 2 ICW	X	X	X	X	X
Level 3 ICW	X	X	X	X	X
Level 4 ICW	X	X	X	X	X
Mixed Reality	X	X	X	X	X
Mobile Friendly/Mobile Ready Website	X	X	X	X	X
Mobile Optimized Website	X	X			
Mobile Web App	X	X			
Native App	X	X	X	X	X
Paper/Paper-based	X	X	X	X	X
Picture/Diagram	X	X	X	X	X
Technical Training Equipment	X				
Training Aid	X	X	X	X	X
Training Device	X				
Virtual Reality	X	X	X	X	X

Table 5-1: Content delivery modes and Media Types

Actual equipment: Actual equipment is fielded in the Fleet, used in the operational environment, and has not been altered for use in training. If located in the schoolhouse it is normally referred to as Technical Training Equipment (TTE) and can normally be procured through Navy stock system channels.

Augmented reality/see also mixed reality, virtual reality, and Immersive Virtual Environment (IVE): The integration of digital information with the user's environment in real time. Augmented reality systems use camera-captured video of the real world, and then overlay virtual content, for example using a head-mounted display. The user then interacts with the virtual objects using gesture-or voice-based interactions. Unlike virtual reality, which creates a totally artificial environment, augmented reality uses a wide range of devices to superimpose computer-generated images, information, and data over the real-life surroundings. The main distinction between augmented reality and mixed reality is that mixed reality provides the ability for the virtual and real world to interact in real-time.

Checklist: A job aid that lists task steps. Can be electronic, mobile, or paper-based. Typically used with performance support or SOJT. A checklist may include a static or interactive list used for training, performing tasks, or following a process. A checklist may take on several different types of presentations and devices. A checklist can include a list of items, names or tasks for comparison, verification, or checking purposes. When used for SOJT purposes, a checklist may require signature by supervisors observing or assessing trainee performance.

Decision tables: A task decision-making aid that shows all possible decisions and consequences. Commonly used for complex tasks. Can be electronic, mobile, or paper-based. Typically used with performance support or SOJT.

Demonstration animation: Animated video that shows the dynamics of a task that cannot be seen naturally with the human eye. Can be electronic or mobile. Typically used with Performance Support, SOJT, or IFIT.

Demonstration video: Video that shows how a task is completed or orients the Sailor to the job environment and/or equipment. The video uses real humans and real equipment. Can be electronic or mobile. Typically used with performance support, SOJT, or IFIT.

Full system trainer: Recreates the entire platform or entire system, physical objects and software. It represents a realistic, artificial training environment allowing personnel to acquire and practice skills "reps and sets" in scenarios not possible or practical in actual settings. It provides a comprehensive range of task and environmental cues and consequences related to the training requirements.

Hybrid mobile app: Works across platforms and behave like native apps. Users can install it on their device like a native app but it is actually a web app. These types of apps are built with JavaScript, hypertext markup language (HTML), and cloud services stack (CSS) and run in Web view. A hybrid app consists of two parts. The first is the back-end code built using languages such as HTML, CSS, and JavaScript. The second is a native shell that is downloadable and loads the code using Web view.

Immersive Virtual Environment (IVE): A combination of virtual simulation and courseware that immerses trainees in a realistic 3-D virtual environment to train job tasks in settings that more closely align with real-life scenarios.

Job aid: A source of information (checklist, procedural guide, decision table, worksheet, algorithm, etc.) used by job incumbents to aid in task performance.

Interactive Multimedia Instruction (IMI): IMI is a term applied to a group of predominantly interactive, electronically delivered training and training support products. IMI products include instructional software and software management tools used in support of instructional programs.

ICW-1: NOTE: Given current technology and training practices there is almost no practical situation where student-controlled Level 1 IMI would apply. This level would more likely apply to instructor-facilitated presentation of mostly linear training material. ICW level descriptions are provided as an overview. More detailed descriptions are in included in MIL-HDBK-29612-3A.

- **Instructor interactions:** Performs basic interactions with the delivery system (e.g., paging through content)
- **Student interactions:** Passive to limited participation; may perform basic interactions with the delivery system as directed
- **Audiovisual media:** Text; photos; video/audio, if customer-supplied or if minimal production and postproduction is required (i.e., can be recorded using simple devices with little or no editing necessary); 2-D/3-D graphics (not complex); repurposed or customer-supplied complex graphics (where no editing or revision is necessary); interactive graphical user interface (GUI) (menus, submenus); minimal hyperlinks/hotspots; customer-supplied animations; simple animations of parts/equipment/process flows; check-on-learning animations
- **Menu/path:** Navigation should be primarily linear with occasional simple menus/submenus to one or two paths and then return (e.g., moving page-to-page by clicking on the “Next” button or on objects that advance the presentation in a linear path); however, they may be designed for the user to be able to respond to instructional cues (e.g., objects on the screen such as point-and-click objects, rollover objects, and drag-and-drop objects). Using hotspots to advance the screen is the same as clicking "next" to advance (still essentially a linear progression). Designed as an information-only or an information-plus-demonstration strategy
- **Learning activities:** Including but not limited to, practice activities with feedback limited to recall of information presented or separately directed as lab activities
- **Comprehension checks:** Including but not limited to, multiple choice, matching, etc. with immediate instructor feedback or system-generated feedback as appropriate

ICW-2: This may include personal computer (PC)/desktop simulation Type I at Immersion Level 1 and Fidelity Level A. [See PC/desktop simulation.] NOTE: Given current technology and considering the most basic computer use, almost all self-paced IMI falls into Level 2, which relies heavily on Level 1 elements (e.g., mostly linear presentation and simple menus to one or two paths) but with audiovisual elements developed at a more complex level. The exception would be Level 2 IMI with embedded Level 3 learning activities (e.g., PC simulation to perform procedural skills, or application of principles such as tactics, or a PC simulation as a lab activity).

- **Student interactivity:** Performs moderate to complex interactions with the delivery system
- **Audiovisual media:** Audio/video (e.g., can be recorded using simple device and little editing necessary); 3-D graphics; interactive GUI (menus, submenus); hyperlinks/hotspots; animations of parts/equipment/process flows; check-on-learning animations
- **Menu/path:** The learner makes simple responses to instructional cues and interacts with objects on the screen such as point-and-click objects, rollover objects, and drag-and-drop objects (e.g., simple item selection, procedural response). Interaction offers feedback and remediation. The learner has more control over navigation with two or three menu/path capability. It is designed as an information-only or an information-plus-demonstration strategy.
- **Learning activities:** Including but not limited to, procedural skills demonstrated by the courseware and procedural skills via previously un-encountered scenarios, both with immediate feedback
- **Comprehension checks:** Including but not limited to, multiple choice, matching, etc. with immediate system-generated feedback, and previously un-encountered procedural skills scenarios

ICW-3: May include PC/desktop simulation Type I at Immersion Level 1 and Fidelity Level B. PC/Desktop Simulation.

- **Student interactivity:** Performs complex interactions with the delivery system
- **Audiovisual media:** Audio/video; 2-D/3-D Graphics (complex); interactive GUI; coded activities (e.g., guided practice, emulation, games, simulation of parts of systems, animations, and Check on Learning)
- **Menu/path:** A level of interactivity that most often applies to specific learning activities within a Level 2 lesson (e.g., a learning activity to perform procedural skills, or application of principles such as tactics, or a PC simulation as a lab activity). It involves simulated activities such as a how-to guide for learning software; simulated activities depicting diagnostic procedures; simulated operational procedures; and simulated activities for troubleshooting. The learner controls the learning experience by responding to instructional cues (i.e., presentation of stimulus) that may involve open-ended navigation. The learner is encouraged to branch (test out or otherwise skip content already mastered), make decisions, and alter paths, and receives constructive feedback. The learner uses varied techniques in response to instructional cues involving complex concepts, procedures, and evaluation. A lesson may present complex operation and maintenance procedure scenarios. The lesson may be designed as an information plus demonstration plus application strategy, or as a whole task-centered with demonstration application strategy.

- **Learning activities:** Including but not limited to, practice with immediate feedback is mostly application of procedural skills, with ample opportunities to practice, but not with free-play.
- **Comprehension checks:** Including but not limited to, testing with tailored remediation; and adaptive branching based on pretest performance. There should be few, if any, recall of information questions in a Level 3 learning activity.

ICW-4: This may include virtual world or augmented reality and is most likely Type II, Immersion Level 2, with Level of Fidelity B or C. Level 4 incorporates realistic graphics and physical feedback via electric motors, force feedback, pneumatics, and hydraulics utilizing state-of –the add technology for simulation and communication. It also typically provides capability for real-time simulation and immersion of performance in the operational setting with automated feedback. Additional information is available in MIL-HDBK-29612-3A.

Mixed reality: The merging of real and virtual worlds in real time to produce new environments and visualizations where physical and digital objects co-exist and interact (e.g., integrating digitized objects into the real world that users can interact with, and which can occlude the real-world objects that are hidden behind them). Typically used with IFIT. The main distinction between augmented reality and mixed reality is that mixed reality provides the ability for the virtual and real world to interact in real-time. Like virtual reality, mixed reality systems also use head-mounted displays; however, the field of view is typically constrained to around 100 degrees.

Technical Training Equipment (TTE): Investment cost end items of operational equipment, devoted to the training and instruction of naval personnel, for which PMs have the responsibility for the design, development, modernization, configuration management, or selection for service or special use.

Training Device (TD): Hardware and software which have been designed or modified exclusively for training purposes involving, to some degree, simulation or stimulation in its construction or operation, to demonstrate or illustrate a concept or simulate an operational circumstance or environment.

Media and Fidelity Analysis (MFA) Stakeholder(s):

Organization	Role
USFF	Executive Agent
TYCOM	Supporting - Approval Authority
NETC/Learning Center	Supporting - Media requirements
OPNAV N1, High-9s and N2N6	Requirements Validation and Resourcing
SYSCOM/TSPO	Supported MFA Development/Acquisition

Media and Fidelity Analysis (MFA) Reference(s):

- MILHBK-29612-DoD

Media and Fidelity Analysis (MFA) Input(s):

- Complete task analysis
- RDA workbook
- Training tasks

Media and Fidelity Analysis (MFA) Output(s):

- Media recommendations
- Draft MFR

5.7 Functional Requirements Document (FRD) Workshop

The purpose of the FRD workshop step in Phase II is to determine a training solution for each task analyzed by combining the timing determined from the RDA and the training methods from the MFA. FRD activities are accomplished primarily through conducting interviews with Fleet SMEs. TYCOMs are responsible for coordinating necessary SMEs for the FRD workshop. SME reviews and inputs are crucial to properly aligning and validating training tasks. Performing activities are required to vet recommendations across a wide cross-section of rating SMEs and incorporate comments and concerns. This step of Phase II is shown in Figure 5-6: Functional Requirements Document (FRD) Workshop.

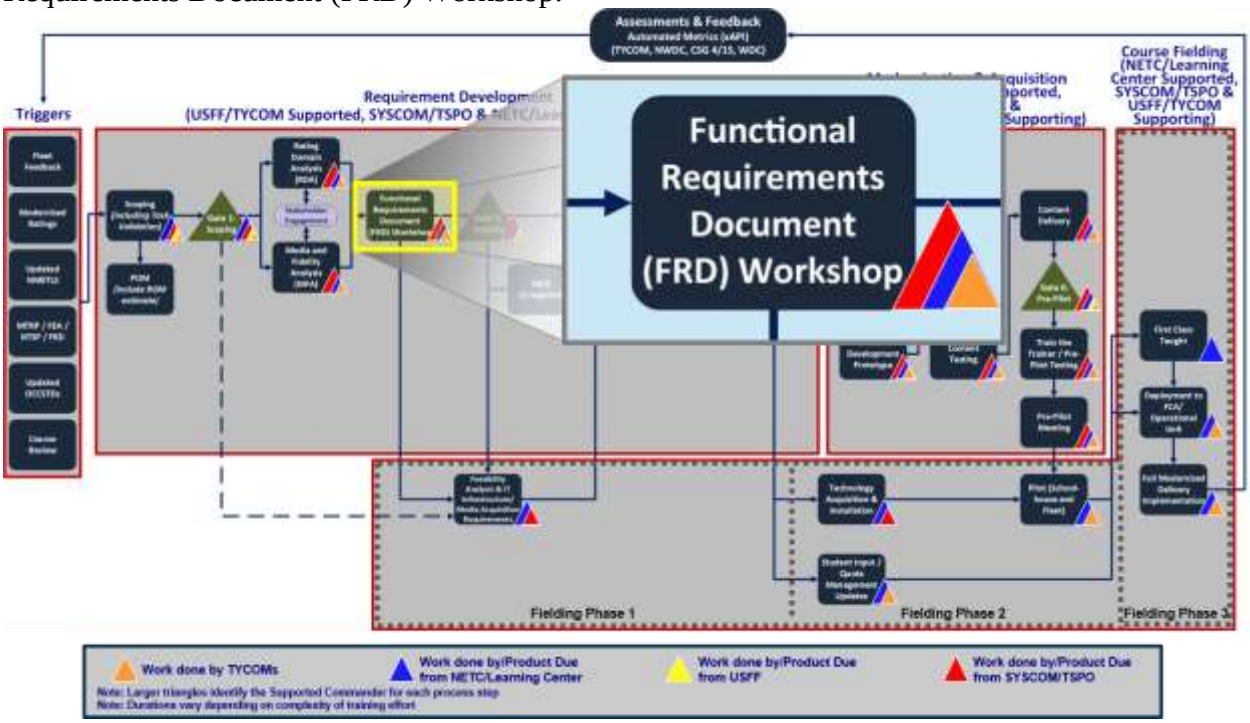


Figure 5-6: Functional Requirements Document (FRD) Workshop

As the end users of the revised training products, Fleet Sailors provide unique feedback into the timing and content of the training tasks. SMEs must consist of rating technical experts including Sailors from the target rating(s) ranging from paygrades E-5 to E-9 in order to incorporate as many perspectives as possible. Workshops must always be scheduled to accommodate Fleet Sailor schedules as much as possible. Results of the workshop must be captured in the draft FRD.

A successful workshop should be held at an appropriate location for the TYCOM and Learning Center to participate. To ensure successful scheduling of workshops the following RRL Business rules (see Appendix I) will be applied:

- BR006: Developing activity will provide a Rating workshop schedule three months in advance of the workshop or within two weeks of funding analysis work.
    - Workshop schedule will identify key support needed for personnel and logistics.
    - Scheduling/coordination will begin six weeks prior to the scheduled event.

  - If the event is not locked down 15 days prior to the event occurrence, ESC/O-6 leadership will be informed to engage.
  - If attendees are not finalized by 10 days prior to the scheduled start date, the event may be rescheduled at USFF direction.

During this workshop the RDA findings are presented to key SMEs and decisions must be made on the following:

- Final task analysis
- Tasks timing
- Task media selection (performance support, equipment and trainer needs)
- Training gap analysis
- Overtraining identification

The FRD workshop in an optional event. The performing activity may complete this FRD work in another manner, but TYCOM and Learning Center concurrence is still required to obtain approval for the document.

Functional Requirements Document (FRD) Stakeholder(s):

Organization	Role
USFF	Executive Agent
TYCOM	Supporting - Fleet Requirements Approval
NETC/Learning Center	Supporting - Fielding Training Requirements Approval
SYSCOM/TSPO	FRD Development/Acquisition
OPNAV N1, High-9s and N2N6	Requirements Validation and Resourcing

Functional Requirements Document (FRD) Workshop Reference(s):

- N/A

Functional Requirements Document (FRD) Workshop Input(s):

- RDA Workbook
- Draft MFA

Functional Requirements Document (FRD) Workshop Output(s):

- Data collection for the draft FRD

5.8 Gate 2 - Analysis

The Gate 2 or Analysis Gate serves as the O-6/GS-15 level approval of the RDA, MFA, FRD supporting data workbook by stakeholders. Gate 2 approves the analysis artifacts so development of the FRD can begin. The performing SYSCOM/TSPO will document all meeting minutes and provide a MFR to include any action items identified. Documentation of action items is important to ensure all outstanding tasks are completed. The primary TYCOM will provide concurrence with Gate 2 by signing the MFR. Changes to the RDA, MFA, FRD supporting data workbook after Gate 2 approval should be documented via MFR signed by the Lead TYCOM and must be approved by the RRL ESC and changes to cost, schedule, or performance must be presented for review. The Gate 2 portion of requirement development is shown in Figure 5-7: Gate 2 - Analysis Gate.

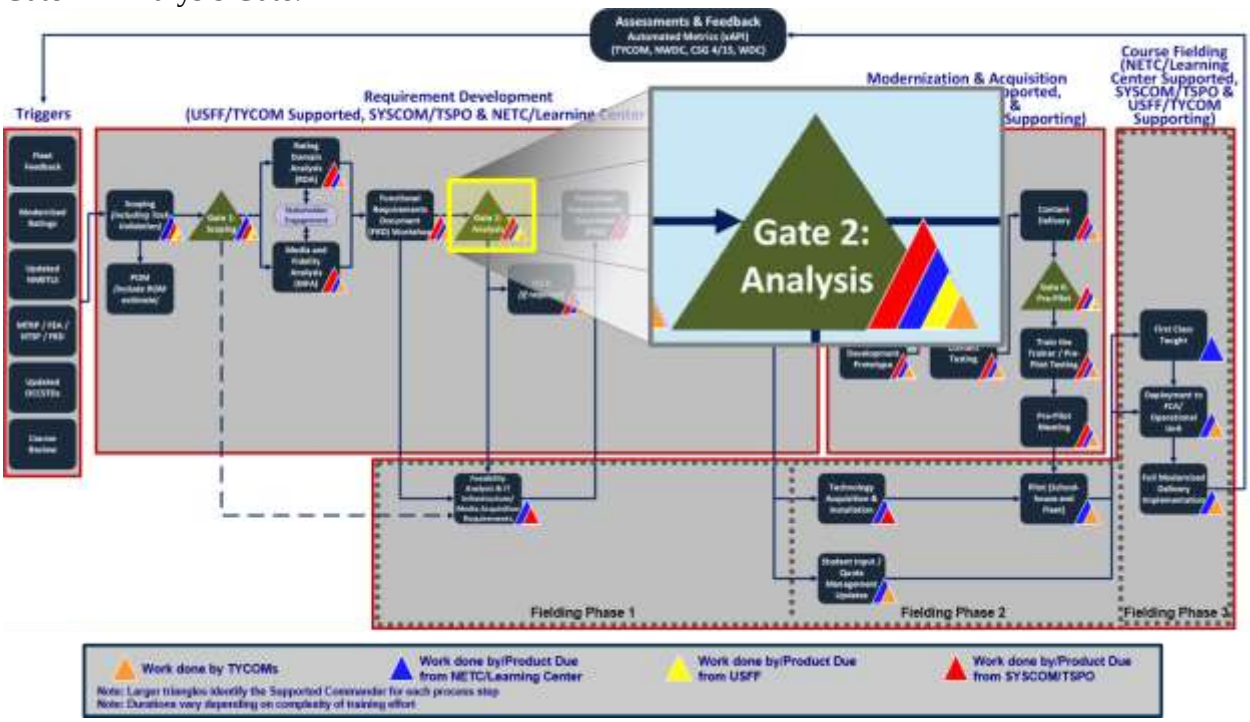


Figure 5-7: Gate 2 – Analysis Gate

The purpose for the Gate 2 is for all the stakeholders to establish when, where, and how training will be delivered. All data collected during RDA and MFA are combined in the FRD supporting data workbook to develop a training solution listed by learning objective. Careful attention should be paid to recommendations that drive the addition of large-scale trainers or training devices. If so, the performing activity must be prepared to work with the executive agent to develop a Program Objective Memorandum (POM) submission (as outlined later in this manual) if required.

During the approval of analysis documents stakeholders will apply the following RRL business rules for modernized delivery:

- BR007: Heel-to-toe modern delivery requirements incorporate the following to match the Distribution Guidance Memorandum (DGM). The following exceptional situations/categories require the delivery of heel to toe training (prior to the first assignment):
    - Other service students
    - Foreign National students
    - Sailors ordered to Forward Deployed Naval Forces (FDNF)
    - Sailors ordered to Train To Qualify/Train To Certify (TTQ/TTC) platforms
    - Sailors ordered to Minimally Manned Platforms (MMP)
    - Sailors ordered to other service expeditionary forces
        - Once validated by the appropriate TYCOM that modernized training exists and can be provided at the platform, FDNF, TTQ/TTC, and MMP platforms may be exempted from this business rule with the RRL ESC approval.
- BR008: When aligning training to the time of performance during a Sailor's first assignment, any training (IFIT, SDIT, or SOJT) recommended for delivery during the first 12 months of the first assignment shall be realigned back to Block 0.
    - This business rule accounts for the diverse onboarding and qualification requirements of junior Sailors during the first 12 months of their initial assignment (e.g., temporary food service assignments, I-Division, Basic DC, etc.) and provides the required rating specific training prior to the point of need during initial accession training (i.e., A-school or accession C-school).
- BR009: When aligning IFIT training during a Sailor's sea tour, a minimum of 12 months should be planned between training requirements.
    - This business rule ensures training is close to the time of need without undue burden to the Sailor and platform affecting Operational Force Readiness Plan(s) (OFRP) and readiness.
- BR010: When scheduling IFIT training during a Sailor's sea tour, it may be completed up to nine months prior to the planned date, or no later than three months after the planned date.
    - The business rule provides flexibility in scheduling training to ensure the Sailor receives it prior to the time of need while also allowing OFRP demands to be met. Assumes ISD's have included a three month buffer in optimum timing.

Gate 2 – Analysis Gate Stakeholder(s):

Organization	Role
USFF	Executive Agent
TYCOM	Supporting - Fleet Requirements Approval
NETC/Learning Center	Supporting - Fielding Requirements
OPNAV N1, High-9s and N2N6	Requirements Validation and Resourcing
SYSCOM/TSPO	Supported - FRD Development/Acquisition - Gate Coordinator
NAVMAC	Supporting
Enlisted Community Manager	Supporting

The performing SYSCOM is responsible for the administration of the gate review. The rating stakeholders and leads identified in Appendix (H) are invited; however, the lead TYCOM will provide the approval when required. Entrance criteria consist of the data collected, analysis completed, or documentation to be discussed at the meeting. The entrance criteria items are used to make decisions on the approval of the gate artifacts. The exit criteria provides all documentation required and where to find it exiting the gate review. A checklist for Gate 2 can be found in Appendix (F).

Gate 2 Coordinator: SYSCOM/TSPO

Approval Authority: Lead TYCOM O-6/GS-15

Focus of Review: Per training path.

Part 1 - RDA

- **Purpose of Gate 2 is to provide O-6/GS-15 level review and approval of RDA artifacts:**
    - Career progression timeline
    - Learning objective/task mapping and timing
    - Over-trained learning objectives/tasks
    - Potentially gapped work elements
        - Authorizes JTA/JDTA and training task analysis to commence
- **Key Events:**
    - RDA Data Collection Workshop
    - RDA Workbook working level review and approval
- **Gate 2 RDA Entrance Criteria:**
    - Business rules applied to ideal timing recommendation
    - Working level review of artifacts and adjudication complete
    - Artifacts updated to reflect review comments
- **Gate 2 RDA Exit Criteria:**
    - All requests for action from gate review are closed
    - FRD Supporting Data Workbook with recommended timing of training delivery
    - The following minimal data is uploaded to the MPTE Portal:
        - RDA workbook
        - Lead TYCOM O-6/GS-15 approved gate MFR

Part 2 - MFA:

- **Purpose of Gate 2 is to provide O-6/GS-15 level review and approval of MFA artifacts:**
    - Ideal media characteristics per learning objective/task
    - Training equipment needs (additional/modified)
    - Strategy requirements
    - Narrative summarizing analysis findings and modernization recommendations
    - Initiates MCD for VSIM with and without hardware and allows for POM submission
- **Key Events:**
    - MFA data collection workshop
    - Review and approve strategy recommendations
    - Review and approve media characteristics per learning objective/task
    - Review and approve narrative description of rating modernization
- **Gate 2 Entrance Criteria:**
    - Working level review of artifacts and adjudications complete
    - Artifacts updated to reflect review comments
- **Gate 2 Exit Criteria:**
    - Technology reuse across ratings and/or paths vetted and approved
    - FRD supporting data workbook with recommended media and equipment
    - All requests for action from the gate review are closed
    - The following minimal data is uploaded to the MPTE Portal:
        - Functional Requirements Document (FRD) (without feasibility and fielding data)
        - Lead TYCOM O-6/GS-15 approved gate MFR

5.9 Feasibility Analysis & Information Technology (IT) Infrastructure/Media Acquisition Requirements

The purpose of feasibility analysis is for NETC to review the new training solution recommendations outlined in the FRD. New training solutions can detail large scale changes to the current training methodology and information technology (IT) infrastructure. For example, the analysis could recommend high-tech software or simulation requiring specific hardware and network capabilities to operate on. Therefore, it is imperative that NETC thoroughly review the recommendations from the performing activity to determine feasibility for executing the training plan outlined in the FRD. The Feasibility Analysis and IT Infrastructure/Media Acquisition Requirements are shown in Figure 5-8: Feasibility Analysis & IT Infrastructure/Media Acquisition Requirements.

Note: The steps that apply to fielding Phases II and III regarding course fielding (e.g., implementation of new and revised courseware at applicable learning centers and in the Fleet) can be found in Section 7.0.

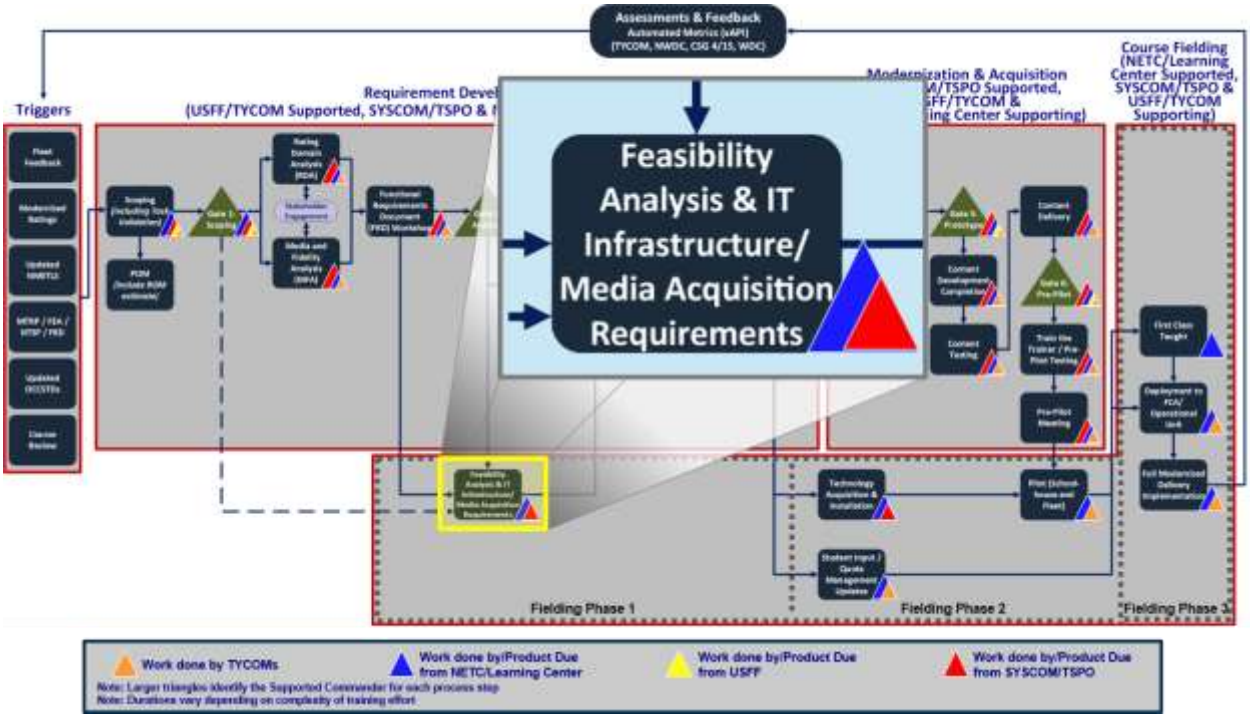


Figure 5-8: Feasibility Analysis & IT Infrastructure/Media Acquisition Requirements

Upon completion of the draft FRD, NETC must conduct feasibility analysis to determine practicality of implementing the proposed training solutions needed to execute the revised training and determine whether the solution will work with legacy NETC hardware. This analysis includes identifying the required facilities, course instructional staffing, necessary training equipment, laboratory configuration, classroom necessities, and associated IT infrastructure. NETC must provide their feasibility determination to USFF and TYCOMs for approval based on the ability to implement the solution.

RRL business rules (see Appendix I) were drafted by stakeholders to align stakeholder efforts. The following RRL business rules will be applied during the feasibility analysis process:

- BR011: Beginning in POM 23, any needed increases in TYCOM manpower will be funded by TYCOM's Resource Sponsor.
    - This business rule defines resource responsibilities.
- BR012: Learning Center Instructors (Military, Civilian, Contractor) are funded by the Learning Center Resource Sponsors.
    - Program requirement and Table of Allowance (TOA) for Learning Center Instructors have been the responsibility of respective resource sponsors since FY13.
- BR013 A: Acquisition of rating specific equipment is the responsibility of the Learning Center Resource Sponsor (OPNAVINST 1500.76 (Series)) applies.
    - "Rating specific"- Required to meet occupational standards and tasks tied to specific rating/set of ratings (e.g., Part-task trainers, SQQ-89)
- BR013 B: Initial acquisition of non-rating specific equipment is the responsibility of RRL until otherwise noted.
    - "Non-rating specific" – Generally configurable to multiple ratings (e.g., MRTS, ECR, IT hardware, facility enhancements, oil lab)
- BR013 C: Sustainment of both rating specific and non-rating specific equipment is the responsibility of the Learning Center Resource Sponsor.
- BR013 D: Equipment and sustainment must be programmed and budgeted a "lead-time away from need" to ensure that equipment deliveries do not lag behind the RRL program.
    - Schedule for Content Conversion and Fielding drive equipment programming decisions.

Feasibility Analysis & IT Infrastructure/Media Acquisition Requirements Stakeholder(s):

Organization	Role
USFF	Executive Agent
TYCOM	Approval Authority
NETC/Learning Center	Supported - Fielding and Feasibility
SYSCOM/TSPO	Supporting
NAVMAC	Supporting

Feasibility Analysis & IT Infrastructure/Media Acquisition Requirements Reference(s):

- NAVEDTRA 130B (Series)

Feasibility Analysis & IT Infrastructure/Media Acquisition Requirements Input(s):

- Approved RDA
- Approved MFA

Feasibility Analysis & IT Infrastructure/Media Acquisition Requirements Output(s):

- Fielding feasibility recommendation(s) including interim (if applicable)

5.10 Military Characteristics Document (MCD)

The purpose of the MCD is to outline required characteristics of training devices and define the military functions they must be capable of performing or simulating. MCDs provide the functional description of a training system within the respective program's training plan (e.g., NTSP) and describes how-to develop the training system following any known constraints on cost, production, supportability, and maintainability. MCDs are developed after the MFA has been approved by stakeholders and provides the basis for developing a Program Objective Memorandum (POM) submission, if needed. The MCD step is shown in Figure 5-9: Military Characteristics Document (MCD).

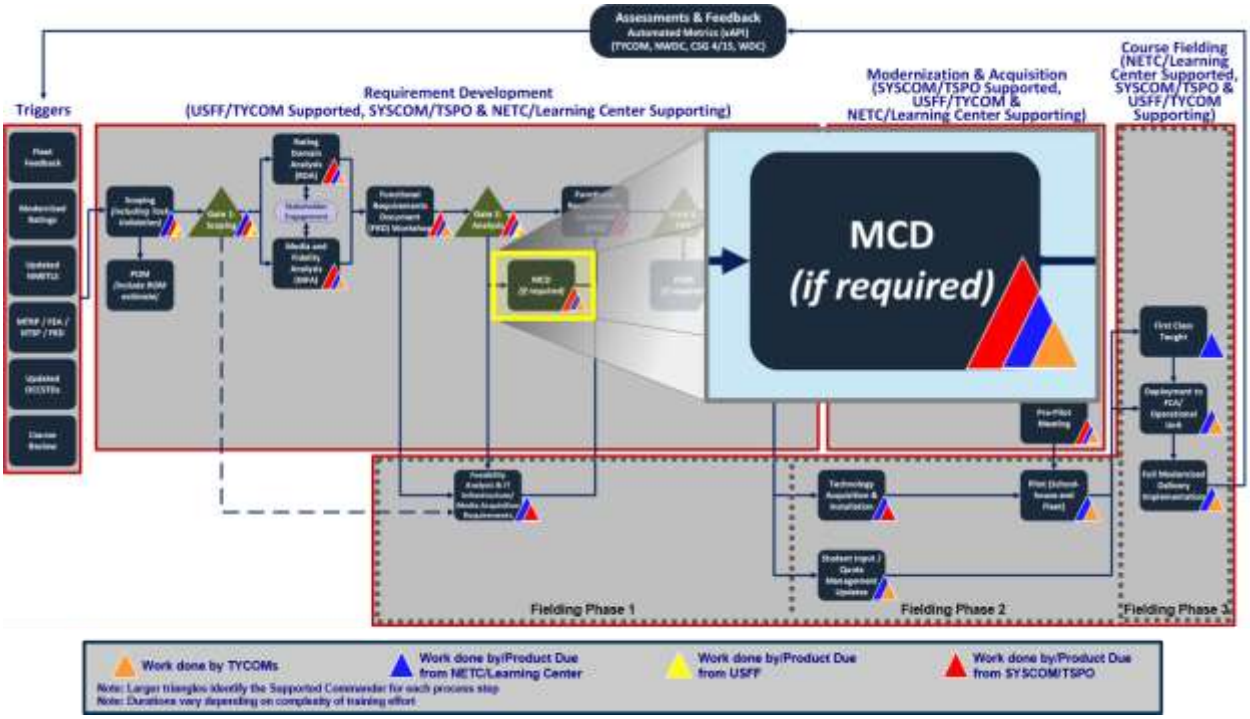


Figure 5-9: Military Characteristics Document (MCD)

The MCD data is collected during a workshop event by SMEs for the rating analysis. This data is analyzed by the performing SYSCOM to develop the MCD findings which are then used to update the FRD. The MCD findings may also drive a POM submission, if required. The MCD process is shown in Figure 5-10: MCD Workflow.

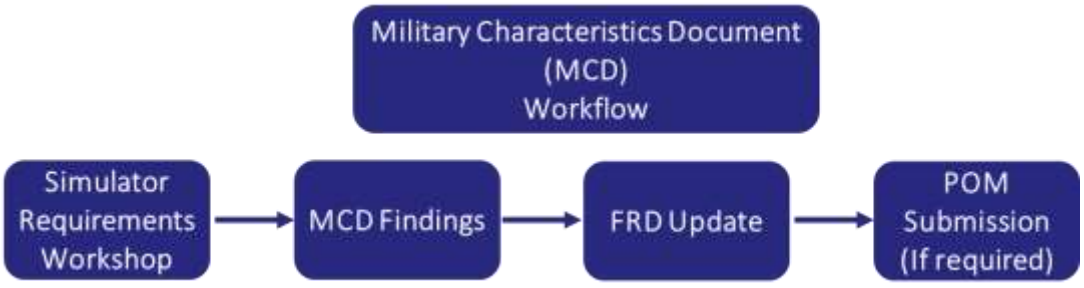


Figure 5-10: MCD Workflow

Military Characteristics Document (MCD) Stakeholder(s):

Organization	Role
USFF	Executive Agent
TYCOM	Supporting - Requirements Approval
NETC/Learning Center	Supporting
OPNAV N1, High-9s and N2N6	Requirements Validation and Resourcing
SYSCOM/TSPO	Supported - MCD Development/Acquisition

Military Characteristics Document (MCD) Reference(s):

- DODI 8510.01
- MILHDBK-29612-2A
- MILHDBK-29612-2
- OPNAVINST 1500.76 (Series)
- Applicable NTSPs

Military Characteristics Document (MCD) Input(s):

- RDA Workbook
- MFA
- FRD supporting data workbook

Military Characteristics Document (MCD) Output(s):

- MCD

5.11 Functional Requirements Document (FRD)

The purpose of the FRD is to serve as the overall training requirements document for a specific rating. The FRD also provides the timeline and MFA requirements for training. It identifies required training tasks associated with work elements performed during a Sailor's career. This report contains the results of initial RDA which recommended timing training tasks to better align with the point of need and the MFA which recommended the most effective delivery method for each task. In addition to the draft FRD, the Total Lifecycle Cost Estimate Sheet (TLCE), will be provided (sample TLCE found in Appendix G). The FRD serves as a foundation for design and development of revised training tasks and is shown in Figure 5-11: Functional Requirements Document (FRD).

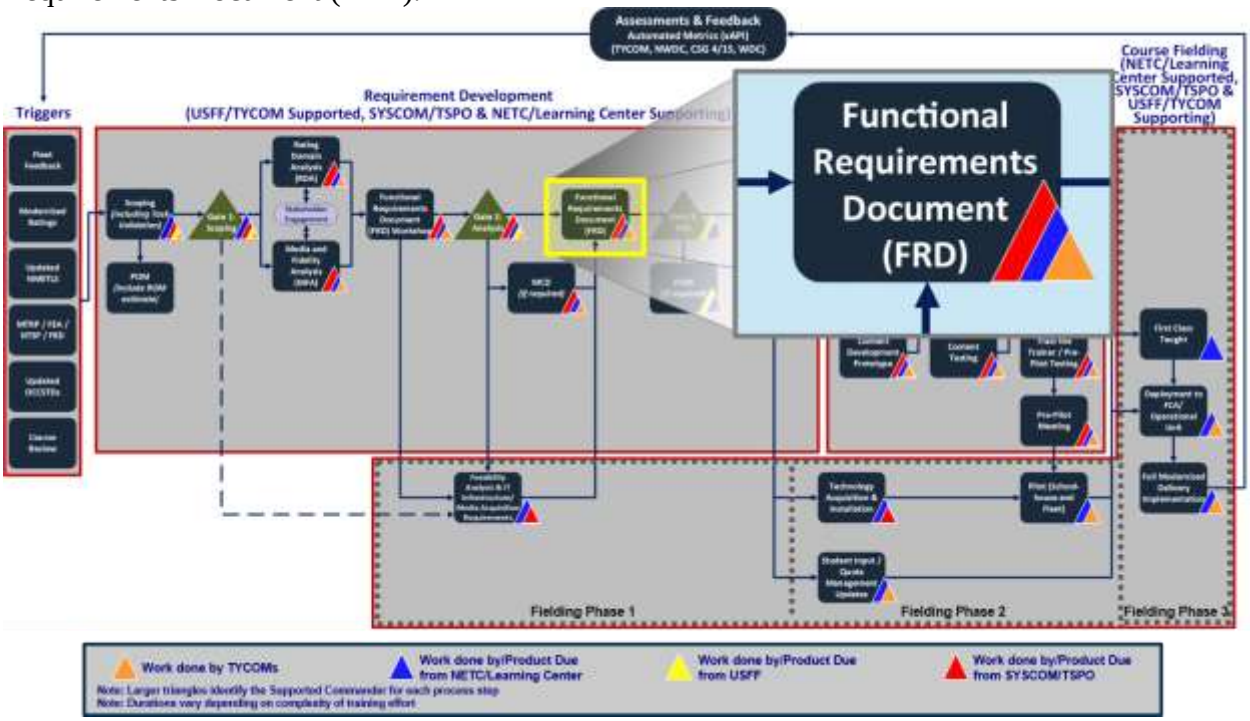


Figure 5-11: Functional Requirements Document (FRD)

Results of the FRD Workshop should be incorporated into the FRD.

The FRD must include, at a minimum, the following sections:

- Final task analysis
  - Final tasks to be deferred
  - Final media selection
- Training gap analysis
- Recommended training modules from CPT
- Student throughput and instructor requirements
- Training equipment
- Media development plan
- Curriculum development plan
- Training Effectiveness Evaluation Plan (TEEP)
- Recommended changes in the applicable rating OCCSTDs

- Summary of analysis and methodology from RDA
- Fielding and feasibility analysis

Functional Requirements Document (FRD) Stakeholder(s):

Organization	Role
USFF	Executive Agent
TYCOM	Supporting - Requirements Approval
NETC/Learning Center	Supporting
OPNAV N1, High-9s and N2N6	Requirements Validation and Resourcing
SYSCOM/TSPO	Supported - FRD Development/Acquisition

Functional Requirements Document (FRD) Reference(s):

- N/A

Functional Requirements Document (FRD) Input(s):

- Validated task analysis
- Validated RDA
- Validated MFA
- Instructor requirements
- Student throughput
- Facility surveys

Functional Requirements Document (FRD) Output(s):

- Draft FRD
- TLCE Sheet

5.12 Gate 3 – FRD

The Gate 3 or FRD Gate serves as the review and approval of the FRD by TYCOMs and supporting organizations. The TSPO or FRD developing activity will document all meeting minutes and provide a MFR to include any action items identified. Documentation of action items is important to ensure all outstanding tasks are completed. The Lead TYCOM will provide concurrence to Gate 3 via a signed MFR. Changes to the FRD after Gate 3 approval must be documented via MFR signed by the Lead TYCOM and approved by the RRL ESC. Cost, schedule, or performance changes must be presented for review. The Gate 3 step of Phase II is shown in Figure 5-12: Gate 3 – FRD Approval Gate.

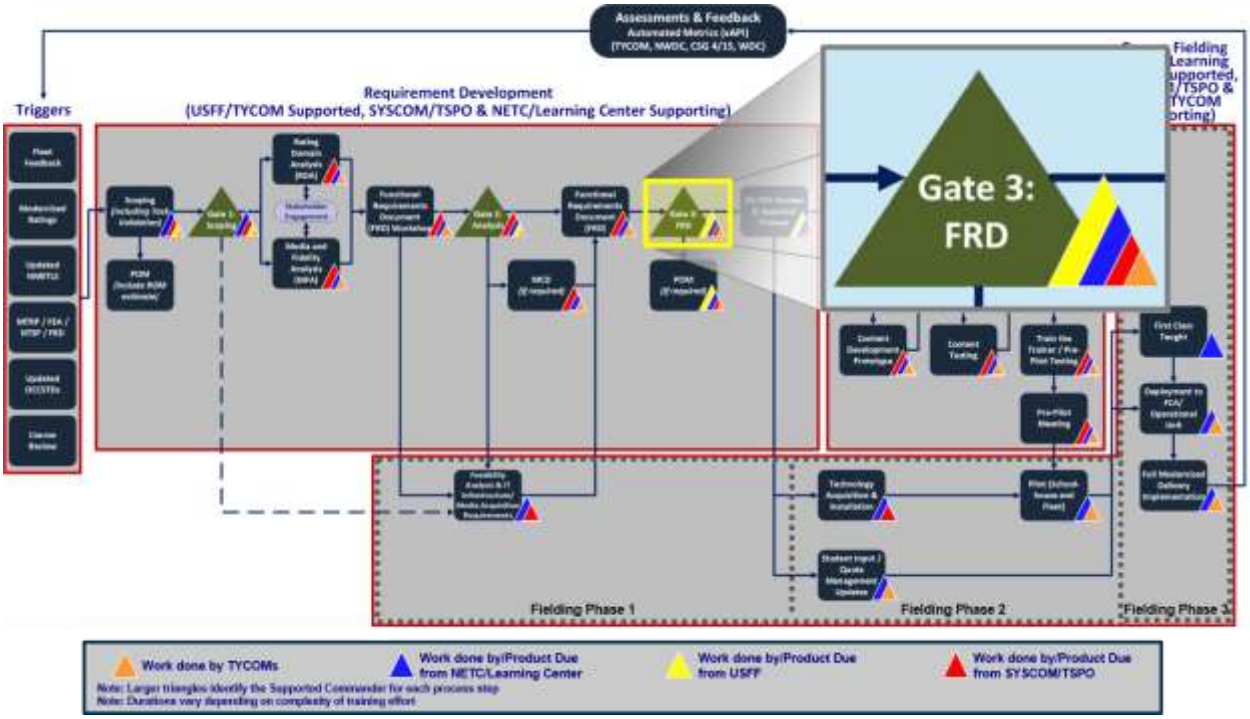


Figure 5-12: Gate 3 – FRD Approval Gate

Stakeholders must pay attention to the following as they review the document:

- Needed instructor resources
- Needed IT upgrades
- Needed infrastructure upgrades
- Planned fielding phases
- Quantities of trainers and training equipment needed
- Training locations

The entrance criteria for the gate review are:

- FRD Data gate complete
- Artifacts updated to reflect workshop findings
- Feasibility data is consolidated into FRD
- TLCE worksheet completed by SYSCOM/TSPO

Highlights of the proposed training solutions must be presented by the SYSCOM/TSPO, focusing on training task alignment within the continuum, media/modality selections, and necessary classroom facility upgrades. Stakeholders must determine whether to allow the FRD to proceed to the next step in the process.

Any disagreement amongst stakeholders must be resolved by the executive agent. The SYSCOM/TSPO must adjudicate all comments resulting from the gate review.

Gate 3 – FRD Stakeholder(s):

Organization	Role
USFF	Executive Agent
TYCOM	Supporting - Requirements Approval
NETC/Learning Center	Supporting
OPNAV N1, High-9s and N2N6	Requirements Validation and Resourcing
SYSCOM/TSPO	Supported - FRD Development /Gate Coordinator
NAVMAC	Supporting
Enlisted Community Manager	Supporting

TSPO or FRD developing activity is responsible for the administration of Gate 3. The rating stakeholders and leads identified in Appendix (H) are invited; however, the lead TYCOM will provide the approval when required. Entrance criteria consist of the data collected, analysis completed, or documentation to be discussed at the meeting. The entrance criteria items will be used to make decisions on the approval of the FRD. The exit criteria provides all documentation required and where to find it exiting the gate review. A checklist for Gate 3 can be found in Appendix (F).

Gate 3 Coordinator: TSPO or FRD developing activity

Approval Authority: Lead TYCOM O-6/GS-15

Focus of Review: Per training path.

Purpose of Gate 3 is to provide O-6/GS-15 level review and approval of feasibility and fielding artifacts:

- Needed instructor resources
- Needed information technology upgrades
- Needed infrastructure upgrades
- Planned fielding phases
- Quantities of trainers and training equipment needed

Key Events:

- Feasibility workshop

Gate 3 Entrance Criteria:

- Analysis gate complete
- Feasibility data is consolidated into FRD

Gate 3 Exit Criteria:

- All requests for action from gate review are closed
- FRD completed (Feasibility and Fielding data inserted)
- Final Total Lifecycle Cost Estimate
- The following minimal data uploaded to the MPTE Portal:
    - Completed FRD
    - Lead TYCOM O-6/GS-15 approved gate MFR

5.13 Program Objective Memorandum (POM) (if required)

The purpose of the POM step of Phase II is to provide a recommendation from the Services and Defense Agencies to the Office of the Secretary of Defense (OSD) concerning how they plan to allocate resources (funding) for a program(s) to meet the Service Program Guidance (SPG) and Defense Planning Guidance (DPG). When additional resourcing is required to execute RRL training requirements beyond current funding profiles, it is essential to submit a POM issue to the applicable resource sponsor. POM is shown in Figure 5-13: Program Objective Memorandum (POM).

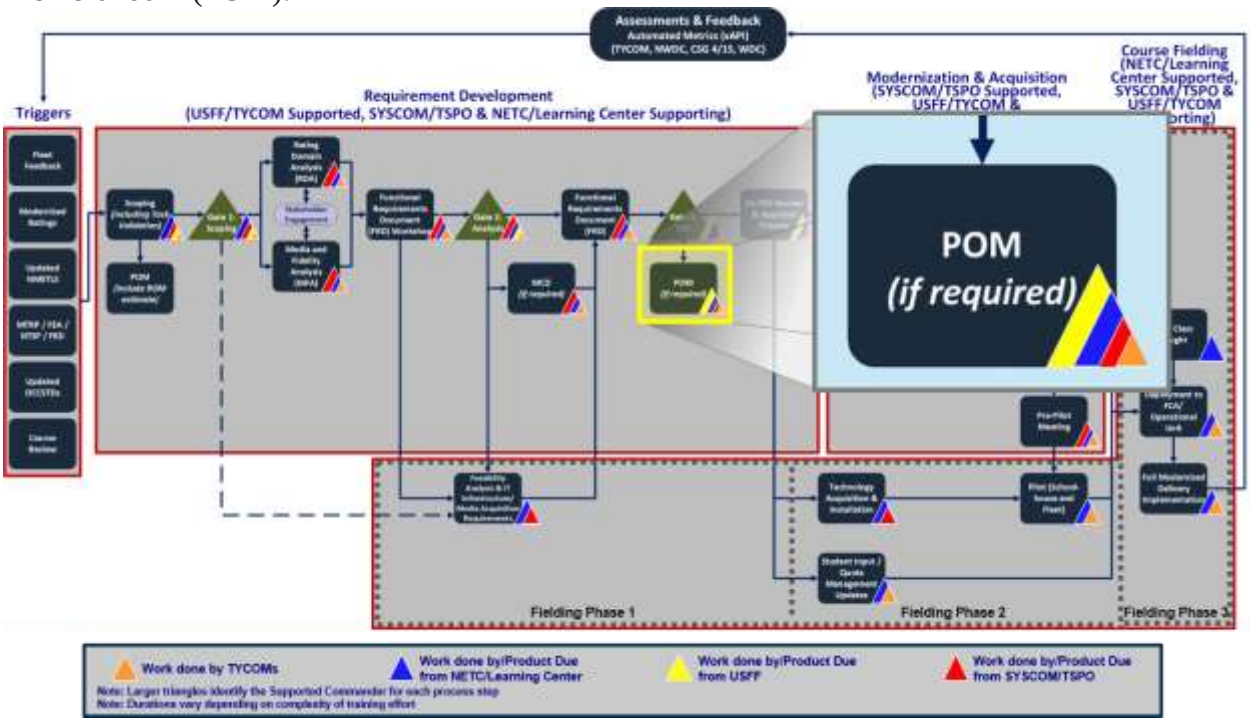


Figure 5-13: Program Objective Memorandum (POM)

Requests for additional resourcing utilize the OPNAV Planning, Programming, Budgeting, and Execution (PPBE) process shown in figure 5-14. PPBE is a resource-allocation process intended to rationally apply leadership priorities and ensure appropriate support levels for all Navy activities. It affects the acquisition process, but it also affects, and is affected by, current and future operations, personnel policy, and overall readiness goals. When completed correctly, it ensures that acquisitions and requisite support programs are properly funded and that current priorities are sustained. A well-formulated POM, at minimum, provides a defensible rationale for the Service's overall requirements.

As shown in the sample figure below, PPBE is a three-year process from POM submission (planning) to the start of project execution. Stakeholders must plan accordingly to ensure training resources are available to complete timely delivery of the training solution. Initial funding considerations should be developed as rough order of magnitude (ROM) costs during scoping to mitigate the three year time lag of the PPBE process. This initial ROM allows for early POM

submission and the ROM is then further developed into a more refined cost estimate once the FRD is approved.

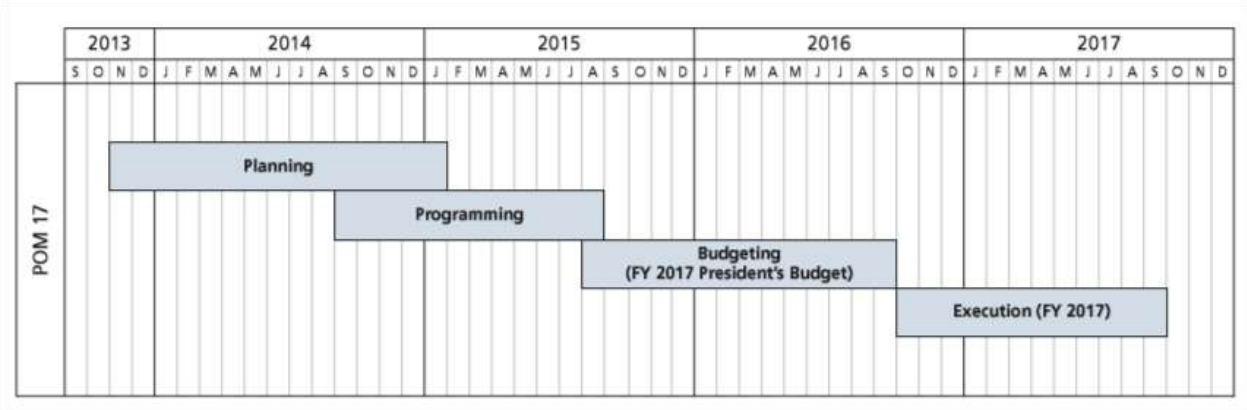


Figure 5-14: PPBE Three-year Process

The USFF POM process for RRL requirements is referred to as the Fleet Program Requirements Review (PRR) and is a year-long, five-step process for gathering, developing and submitting RRL program requirements to OPNAV Resource Sponsors (RS). It is imperative that RRL requirements are mature and accurately articulated with applicable risks for resource consideration. It is encouraged that RRL stakeholders and the respective RS engage consistently before and during the annual OPNAV POM process. The five-step process is shown below (in Figure 5-15):

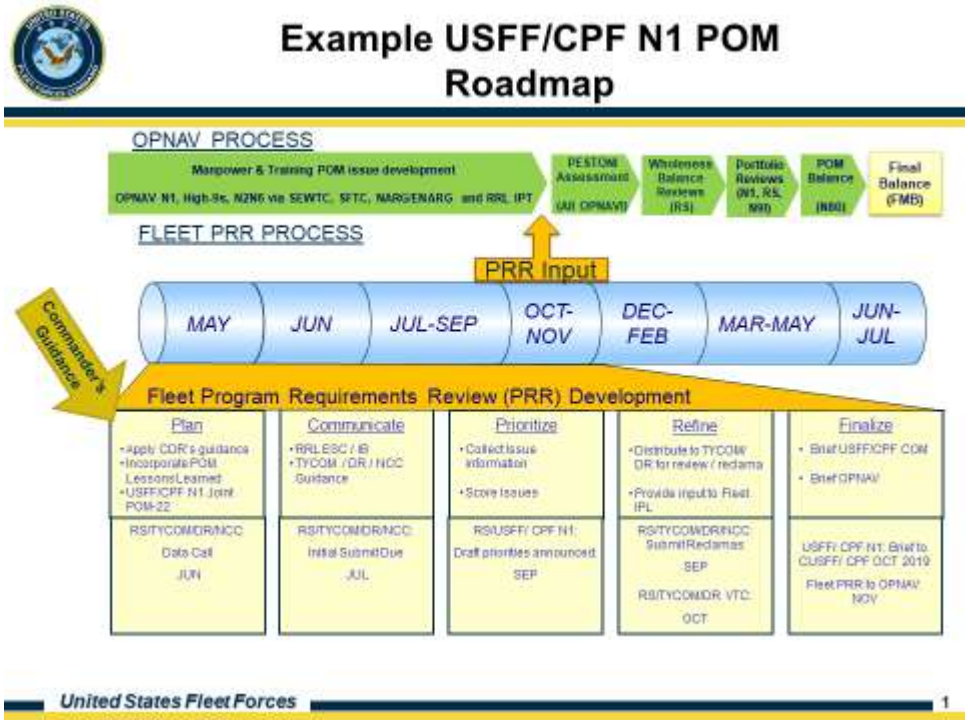


Figure 5-15: Sample USFF/CPF N1 POM Roadmap

Planning

Close coordination is required among Fleet commanders; Type Commanders (TYCOM); Program Executive Offices (PEO); Commander, Naval Education and Training Command (CNETC); NETC Learning Centers; Navy Personnel Command (NAVPERSCOM); and the Office of the Chief of Naval Operations (OPNAV) staff to plan, program, budget, execute and update annual RRL POM requirements. This coordination occurs year-round via routine and established meetings designed to identify training shortfalls to develop RRL training solutions that require POM funding.

Communicate

POM requirements are communicated and socialized with applicable stakeholders via RS-, Program Office-and Fleet-led forums such as the RRL Integrated Product Team (RRL IPT), Submarine Force Training Committee (SFTC), the Surface and Expeditionary Warfare Training Committee (SEWTC) and Executive Naval Aviation Requirements Group (ENARG) and the RRL Executive Steering Committee (ESC) and Integration Board (IB). The lead Training System Program Office (TSPO), in collaboration with applicable Learning Centers, TYCOM and RS, provide the initial validation of POM requirements. Once validated by the RRL IPT as executable, the draft POM requirements are further matured via TSPO and Learning Center development of OPNAV "Dualies" (Figure 5-16) and issue papers to support POM resourcing via established TYCOM, Fleet and RS POM processes. The analysis and proposals must be completed before 30 September of each year.

POM Dualies and Issue papers are the main method of communicating detailed RRL POM requirements to a RS. A Dualie example is shown in Figure 5-16. Because Dualies are a single power point slide, they are limited in space and lack the details that help enable POM prioritization and resourcing. POM Issue Papers were developed to overcome this limitation and are broken into five sections as listed in Table 5-2: POM Issues and Descriptions

POM Issue Section	Description
Capability/Program Description/Requirements	Briefly describe the existing program and, or the OPNAV or Fleet requirement
Status/Proposed Adjustment	Explain the adjustment of funding resources necessary to meet the requirement. Ensure to capture all required resources (manpower, equipment, facilities, curriculum and lifecycle sustainment)
Warfighting capability / Impact of adjustment	Explain the positive result of the funding investment, be specific and concise
Costing Information	Include costing table from the dualie and the account information (PE, LI, and BSO) for the organization executing the funding by appropriation type (MPN, OPN, APN, RDTE, OMN)
Discussion/Requirement/Background	Provide amplifying details supporting the issue. Include pictures, drawings, chart, graphs, tables, the number of courses, students and / or certification events supported over the Future Years Defense Program (FYDP) and any cost savings or cost avoidance.

Table 5-2: POM Issues and Descriptions

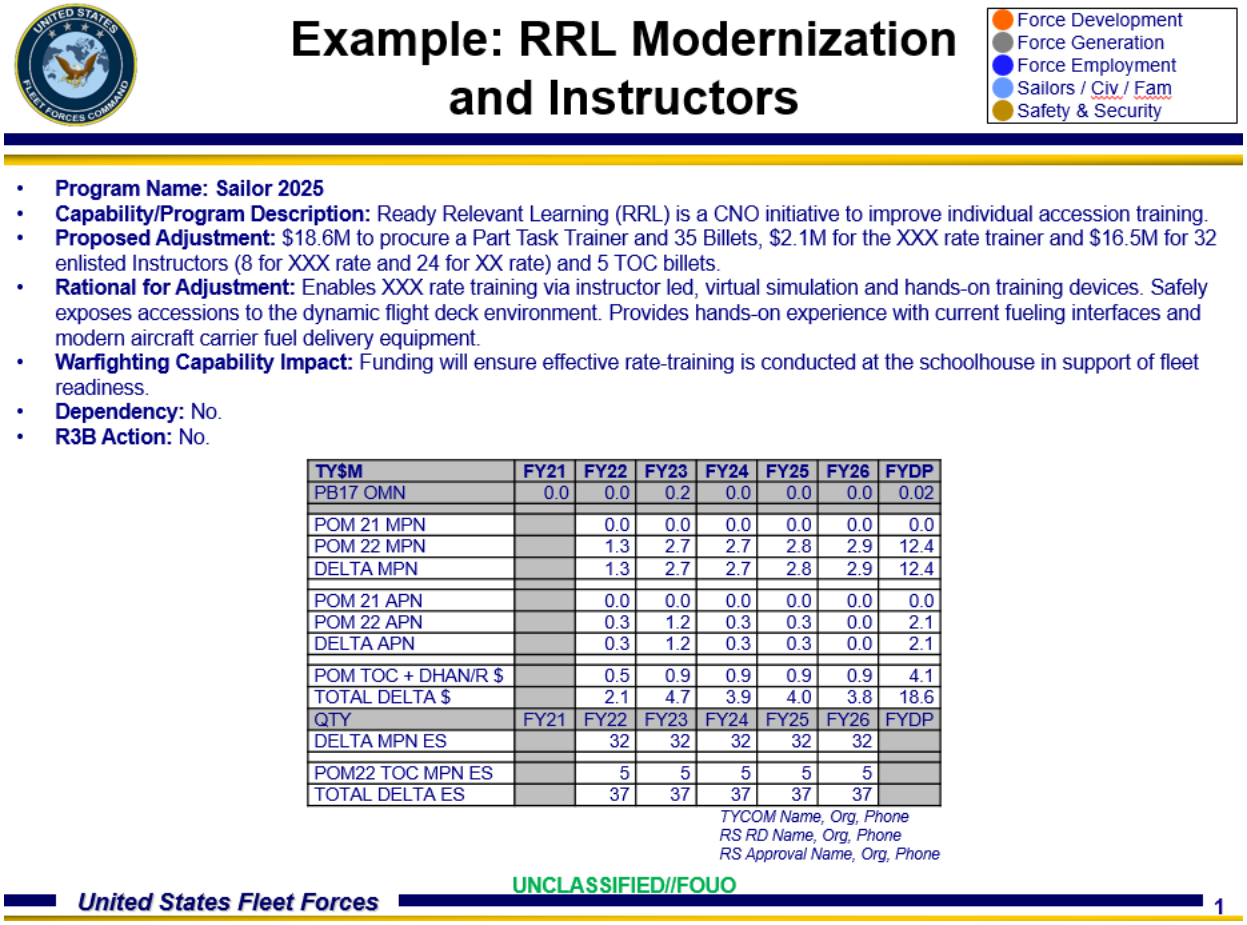
In order to avoid rework, it is recommended that developers reuse issue paper information in the supporting Dualie.

Prioritize and Submit for POM

Once RRL issues have the supporting documentation, they are prioritized against all other manpower and training issues by established OPNAV processes such as the SFTC, SEWTC and the ENARG. In addition, USFFC prioritizes RRL and other POM manpower and individual training issues via the established Fleet PRR process. To the maximum extent possible, the OPNAV and Fleet prioritization processes are synergized ensuring consistency in their prioritized submission. The deadline for completion is not later than 15 November of each year via submission of the Fleet PRR to OPNAV.

Note: In accordance with the fiscal year 2012 OPNAV re-organization, the applicable resource sponsor for the RRL requirement is the resource sponsor with existing resourcing responsibility for the applicable system.

Exception: If a community requires training on a system resourced by a different sponsor, the sponsor responsible for the community with the new requirement will be the resource sponsor for the training. In the case of training not associated with a system (e.g., "A" schools), the resource sponsor will be the sponsor responsible for the applicable rating Appendix (H).



Example: RRL Modernization and Instructors

Force Development
Force Generation
Force Employment
Sailors / Civ / Fam
Safety & Security

- **Program Name: Sailor 2025**
- **Capability/Program Description:** Ready Relevant Learning (RRL) is a CNO initiative to improve individual accession training.
- **Proposed Adjustment:** $18.6M to procure a Part Task Trainer and 35 Billets, $2.1M for the XXX rate trainer and $16.5M for 32 enlisted Instructors (8 for XXX rate and 24 for XX rate) and 5 TOC billets.
- **Rational for Adjustment:** Enables XXX rate training via instructor led, virtual simulation and hands-on training devices. Safely exposes accessions to the dynamic flight deck environment. Provides hands-on experience with current fueling interfaces and modern aircraft carrier fuel delivery equipment.
- **Warfighting Capability Impact:** Funding will ensure effective rate-training is conducted at the schoolhouse in support of fleet readiness.
- **Dependency:** No.
- **R3B Action:** No.

TY$M	FY21	FY22	FY23	FY24	FY25	FY26	FYDP
PB17 OMN	0.0	0.0	0.2	0.0	0.0	0.0	0.02
POM 21 MPN		0.0	0.0	0.0	0.0	0.0	0.0
POM 22 MPN		1.3	2.7	2.7	2.8	2.9	12.4
DELTA MPN		1.3	2.7	2.7	2.8	2.9	12.4
POM 21 APN		0.0	0.0	0.0	0.0	0.0	0.0
POM 22 APN		0.3	1.2	0.3	0.3	0.0	2.1
DELTA APN		0.3	1.2	0.3	0.3	0.0	2.1
POM TOC + DHAN/R $		0.5	0.9	0.9	0.9	0.9	4.1
TOTAL DELTA $		2.1	4.7	3.9	4.0	3.8	18.6
QTY	FY21	FY22	FY23	FY24	FY25	FY26	FYDP
DELTA MPN ES		32	32	32	32	32	
POM22 TOC MPN ES		5	5	5	5	5	
TOTAL DELTA ES		37	37	37	37	37	

TYCOM Name, Org, Phone
RS RD Name, Org, Phone
RS Approval Name, Org, Phone

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United States Fleet Forces 1

Figure 5-16: POM Dualie Example

Figure 5-16 outlines the overall POM process within OPNAV. RRL POM issues are programmatic, must fund issues in that RRL issues compete with other must fund issues for the limited resources available. RS, USFF and TYCOMs participate throughout the process, issuing reclamas when needed. Issues are competed at increasingly higher levels until Chief of Naval Operations approval.

Program Objective Memorandum (POM) Stakeholder(s):

Organization	Role
USFF	Executive Agent / Requirements Prioritization
TYCOM	Supported - Requirements
NETC/Learning Center	Supporting/Supported - Requirements
OPNAV N1, High-9s and N2N6	Requirements Validation and Resourcing
SYSCOM/TSPO	Supporting / Requirements Definition & Costing

Program Objective Memorandum (POM) Reference(s):

- OPNAVINST 1500.76 (Series)
- POM serial guidance (OPNAV)

Program Objective Memorandum (POM) Input(s):

- Military Characteristics Document (MCD)

Program Objective Memorandum (POM) Output(s):

- POM submission (to include issue paper, risks, and capabilities summary)

5.14 Executive Agent Functional Requirements Document (FRD) Review & Approval Process

The purpose of the executive agent FRD review and approval step is to provide final approval of the FRD. Adhering to the ESC review and approval process, all FRDs shall be routed for review through appropriate Navy training stakeholders across the enterprise. This step in Phase II is shown in Figure 5-17: Executive Agent FRD Review & Approval Process.

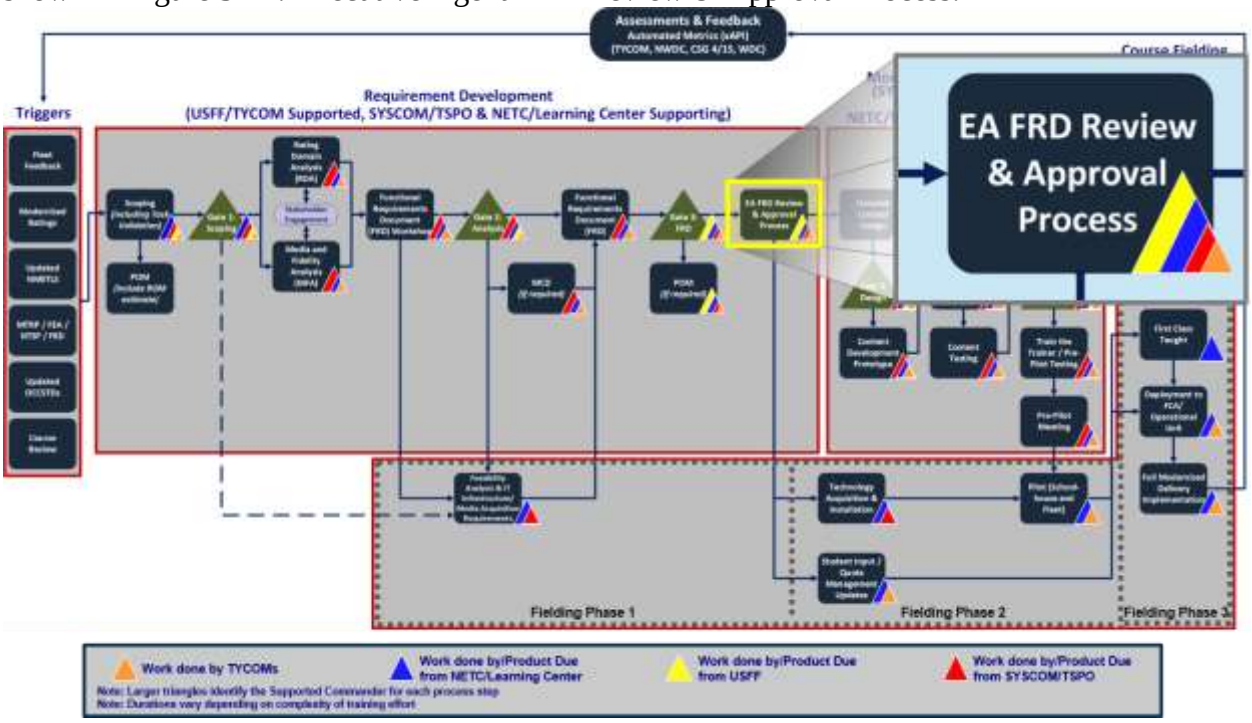

Figure 5-17: EA FRD Review & Approval Process

The performing activity must review and adjudicate all comments in accordance with the ESC review timeline, and provide an updated FRD copy to the executive agent.

The executive agent will give approval via a signed MFR after ensuring lead TYCOM/FLAG/SES concurrence. The signed MFR, FRD and all supporting documents will be posted to the MPTE Portal.

Executive Agent FRD Review & Approval Process Stakeholder(s):

Organization	Role
USFF	Supported - Requirements Approval
TYCOM	Supporting - Fleet Requirements
NETC/Learning Center	Supporting - Training Requirements
OPNAV N1, High-9s and N2N6	Requirements Validation and Resourcing
SYSCOM/TSPO	Supporting - FRD Development

Executive Agent FRD Review & Approval Process Reference(s):

- Block Learning Recommendations Report
- FRD Summary Slides
- MFA data

Executive Agent FRD Review & Approval Process Input(s):

- FRD

Executive Agent FRD Review & Approval Process Output(s):

- Approved FRD with Executive Agent signed MFR

6.0 Phase III – Course Development, Modernization & Acquisition

6.1 Introduction

Phase III outlines the design and development of training for Navy Sailors within a Ready Relevant Learning (RRL) environment. The main purpose of this phase is to translate the requirements gathered in Phase II into plans and actions that make up effective training material. This is done by exploring and employing innovative instructional design and assessment strategies in conjunction with new and modernized technology. This phase ensures that Sailors receive integrated, coherent learning experiences that contribute towards their professional learning and development. The steps included in Phase III- are shown below in Figure 6-1: PHASE III - Course Development, Modernization & Acquisition Process Map.

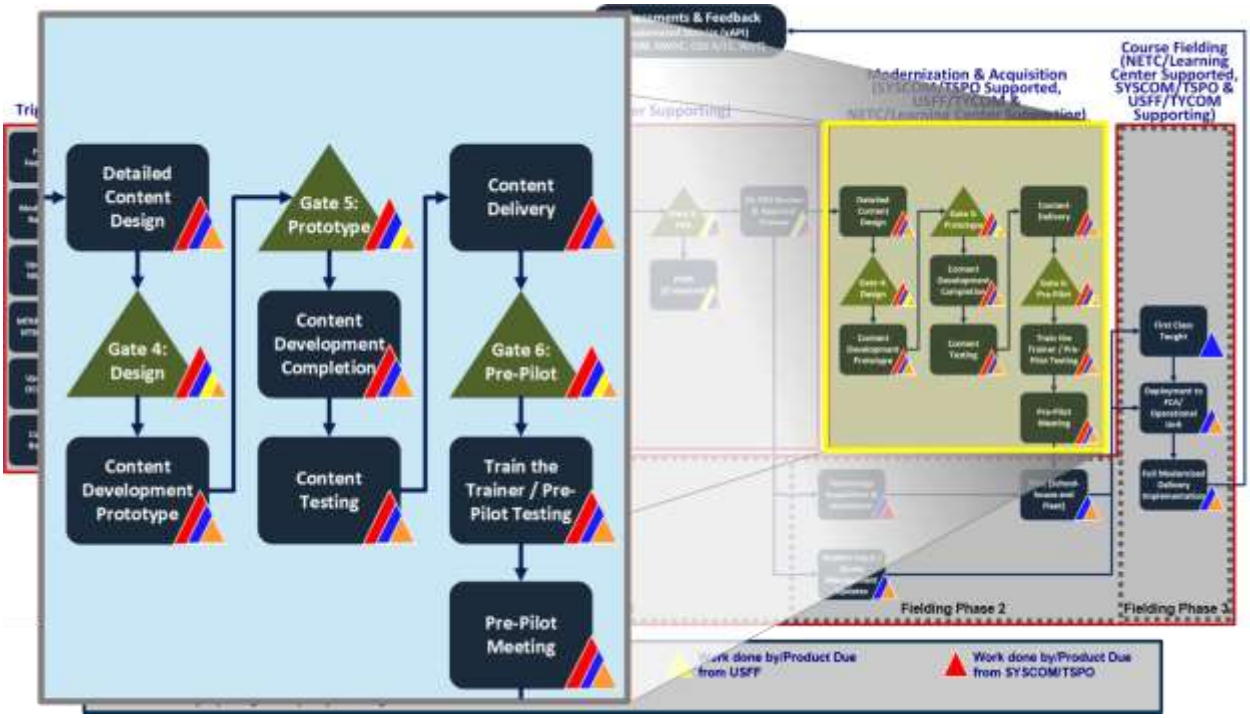

Figure 6-1: Phase III – Course Development, Modernization & Acquisition Process Map

6.2 Detailed Content Design

The purpose of the detailed content design step of Phase III is to build a detailed blueprint for the development of course materials. The analysis conducted during Phase II is used as a starting point to develop the framework needed to support course development. Detailed content design will include arranging learning objectives into a logical flow, developing a time schedule for units and lesson topics, and describing how each module and lesson within a course will achieve the intended learning. This step will also identify all training requirements to including instructor resources, classrooms, and training devices. The detailed content design step Phase III is shown in Figure 6-2: Detailed Content Design.

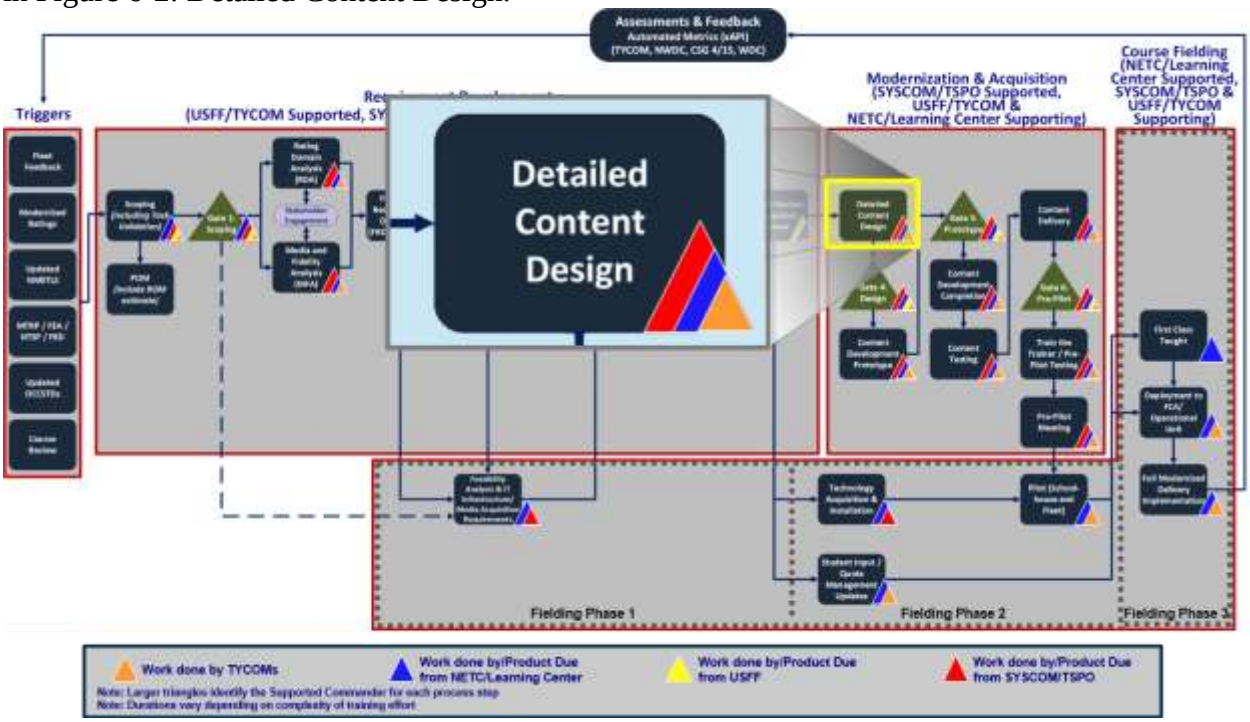

Figure 6-2: Detailed Content Design

The Detailed Content Design Phase shall include:

- Learning objective development and sequencing
- Course Master Schedule (CMS)
- Instructional Media Design Package (IMDP)
- Storyboards
- Prototype development
- Training Project Plan (TPP)

Detailed Content Design Stakeholder(s):

Organization	Role
USFF	Executive Agent
TYCOM	Supporting
NETC/Learning Center	Supporting - Approval Authority
SYSCOM/TSPO	Supported - Content Design/Acquisition

Detailed Content Design Reference(s):

- MILHBK-29612-DoD
- NAVEDTRA 130B
- NAVEDTRA 135D
- NAVEDTRA 136
- NAVEDTRA 137
- DI-SESS-81519C (Instructional Media Requirements Document)
- DI-SESS-81520B (Instructional Media Design Package)
- DI-SESS-81525C (Test Package)
- MIL-PRF-29612B

Detailed Content Design Input(s):

- Approved Rating Domain Analysis (RDA)
- Approved task analysis
- Approved Functional Requirements Document (FRD)
- Approved Media and Fidelity Analysis (MFA)
- Approved Military Characteristics Document (MCD)

Detailed Content Design Output(s):

- Sequenced learning objectives
- CMS
- IMDP
- TPP

6.2.1 Learning Objective Development & Sequencing

Learning objectives describe what the learner must achieve to successfully complete the course of instruction. Learning objectives include terminal and enabling objectives and are constructed based on content type. The five content types are defined as follows:

1. **Concept:** A category that includes multiple examples. It comprises a group of objects, ideas, or events that are represented by a single word or term and share common features.
2. **Facts:** Unique and specific information usually represented in the form of statements.
3. **Procedure:** A sequence of steps that are followed systematically to achieve a task or decision. A procedure contains directions or procedural tasks that are done in the same way every time.
4. **Process:** A flow of events that identify how something works. Topics that list a chain of events that are performed by an organization usually represent a process.
5. **Principle:** Consists of directions that outline guidelines for action in which people must adapt the rules to various situations. Principles typically require a person to make decisions when applying them. Tasks that are completed in different ways each time by applying the guidelines usually represent principles.

As the learning objectives are constructed, they are organized into a logical teaching sequence. The sequencing of the learning objectives must provide the input for the course structure.

Learning Objective Development & Sequencing Stakeholder(s):

Organization	Role
USFF	Executive Agent
TYCOM	Supporting
NETC/Learning Center	Supporting - Approval Authority
SYSCOM/TSPO	Supported - Content Design/Acquisition

Learning Objective Development & Sequencing Reference(s):

- NAVEDTRA 130B
- NAVEDTRA 136

Learning Objective Development & Sequencing Input(s):

- Approved FRD
- Other approved Phase II documents

Learning Objective Development & Sequencing Output(s):

- Sequenced learning objectives

6.2.2 Course Master Schedule

The CMS serves as the master plan for the course structure. It includes the daily schedule, lessons assigned, and the number of hours allocated to complete each lesson, as well as testing. A course may be made up of multiple components that include modules, lessons, topics, and sections using various delivery media and instructional methods.

Course Master Schedule Stakeholder(s):

Organization	Role
USFF	Executive Agent
TYCOM	Supporting
NETC/Learning Center	Supporting - Approval Authority
SYSCOM/TSPO	Supported - Content Design/Acquisition

Course Master Schedule Reference(s):

- NAVEDTRA 130B
- NAVEDTRA 136

Course Master Schedule Input(s):

- Sequenced learning objectives

Course Master Schedule Output(s):

- CMS

6.2.3 Instructional Media Design Package (IMDP)

The IMDP details the design intent for each module and lesson within the course and describes how the course will achieve the intended learning. The IMDP shall include the following:

- **Cover page**: Include the title of the course, course number, and course version number.
- **Table of contents:** Include major headings and page numbers.
- **Summary description of training**: Include a brief course description, length of course, prerequisites, security level classification, and target audience.
- **Course design strategy:** Include descriptions of elements required to design the course.
- **Course structure outline**: Include the hierarchy of course, module, lesson, and sections.
- **Course and lesson flow diagram**: Include a block diagram showing course, module, lesson structure, and the placement of all assessments. A description of the flow will also be provided.
- **Learning objectives and instructional strategies**: Include terminal and enabling objectives and instructional strategies.

- **Presentation category/interactivity level strategy**: Include the types of presentation used (e.g., decision-based navigation, scenario-bounded branching, etc.), types of interactivity used (e.g., hyperlinks, hotspots, rollovers, etc.), and types of media used (e.g., videos, 2D or 3D animations, user-controlled animations, etc.). Refer to MILHDBK-29612-3A for a general description of presentation categories and interactivity levels.
- **Assessment strategy**: Describe how the learning objectives must be measured, weighted, and displayed (refer to NAVEDTRA 132 (Series)).
- **Remediation strategy**: Describe how areas of deficiency must be addressed.
- **Rollup behavior**: Describe how the Navy e-Learning (NeL) Learning Management System (LMS) must report completion status and scores.
- **Plug-in(s) page**: Include any plug-in(s) that the Performing Activity anticipates using. A plug-in is a software component that adds specific capabilities.
- **User interface design**: Provide a graphic depiction of the user interfaces (e.g., screen captures).
- **Metadata items**: Provide a list of the metadata item entries that must be used.
- **Traceability matrix**: Provide a matrix that shows the traceability of learning objectives to task analysis.

*Note: Depending on the delivery method of the learning objectives, not all the sections above may be required.

Instructional Media Design Package (IMDP) Stakeholder(s):

Organization	Role
USFF	Executive Agent
TYCOM	Supporting
NETC/Learning Center	Supporting - Approval Authority
SYSCOM/TSPO	Supported - Content Design/Acquisition

Instructional Media Design Package (IMDP) Reference(s):

- DI-SESS-81520B (Instructional Media Design Package)
- NAVEDTRA 130B
- NAVEDTRA 132
- NAVEDTRA 135D
- NAVEDTRA 136
- MILHDBK-29612-3A

Instructional Media Design Package (IMDP) Input(s):

- Approved FRD
- Sequenced learning objectives
- CMS

Instructional Media Design Package (IMDP) Output(s):

- IMDP

6.2.4 Storyboards

Storyboards provide a detailed description of the instructional design. They also provide visuals of what the learners will see/hear as they transition through the course materials. Areas to be considered during the development of storyboards include the graphical user interface, outline, and flow of the content, graphic file association, instructional designer notes, background, and textual information such as color and font as well as if there is any narration.

Storyboards Stakeholder(s):

Organization	Role
USFF	Executive Agent
TYCOM	Supporting
NETC/Learning Center	Supporting - Approval Authority
SYSCOM/TSPO	Supported - Content Design/Acquisition

Storyboards Reference(s):

- NAVEDTRA 136

Storyboards Input(s):

- Sequenced learning objectives
- CMS
- IMDP

Storyboards Output(s):

- Storyboards

6.2.5 Prototype Development

Before any development efforts begin, a prototype lesson must be developed. The purpose of prototype development is to demonstrate the Performing Activity's understanding of requirements for all aspects of the instructional design identified in the IMDP. A prototype must be developed for each type of delivery method selected for course development; performance support, structured on-the-job training (SOJT), self-directed interactive training (SDIT) and instructor-facilitated interactive training (IFIT), to include virtual simulation (VSIM).

- Prototype development for performance support, SOJT, SDIT, and IFIT must include training guide, lesson plan, PowerPoint (PPT), test questions, and job sheets for the first lesson of the course.
- Prototype development for VSIM design must be built IAW NAVEDTRA 136 and MILHDBK-29612-3A.

Prototype Development Stakeholder(s):

Organization	Role
USFF	Executive Agent
TYCOM	Supporting
NETC/Learning Center	Supporting - Approval Authority
SYSCOM/TSPO	Supported - Content Design/Acquisition

Prototype Development Reference(s):

- MILHDBK-29612-3A
- NAVEDTRA 136
- NAVEDTRA 130B
- NAVEDTRA 132

Prototype Development Input(s):

- Sequenced learning objectives
- CMS
- IMDP
- Storyboards

Prototype Development Output(s):

- Prototype

6.2.6 Training Project Plan (TPP)

The TPP is the overarching course management document that identifies all training requirements including instructor resources, classrooms, and training devices. It is the base planning document for the course development effort. When approved by Naval Education and Training Command (NETC), the TPP becomes the authorization to undertake a course cancellation, revision, or new development effort and initiate resource requisitions.

Training Project Plan (TPP) Stakeholder(s):

Organization	Role
USFF	Executive Agent
TYCOM	Supporting
NETC/Learning Center	Supporting - Approval Authority
SYSCOM/TSPO	Supported - Content Design/Acquisition

Training Project Plan (TPP) Reference(s):

- NAVEDTRA 130B

Training Project Plan (TPP) Input(s):

- Sequenced learning objectives
- CMS
- Storyboards
- Prototype
- IMDP

Training Project Plan (TPP) Output(s):

- Draft TPP

6.3 Gate 4 - Design

The Gate 4 or Design Gate serves as a review and approval of all required detailed content design artifacts by NETC. The SYSCOM/TSPO will document all meeting minutes and provide a MFR to include any action items identified. Documentation of action items is important to ensure all outstanding tasks are completed. NETC will provide concurrence to Gate 4 via a signed MFR. Changes to the approved content design after Gate 4 approval must be documented via MFR signed by NETC and approved by the RRL Executive Steering Committee (ESC). Cost, schedule, or performance changes must be presented for review. This step of Phase III is shown in Figure 6-3: Gate 4 – Design.

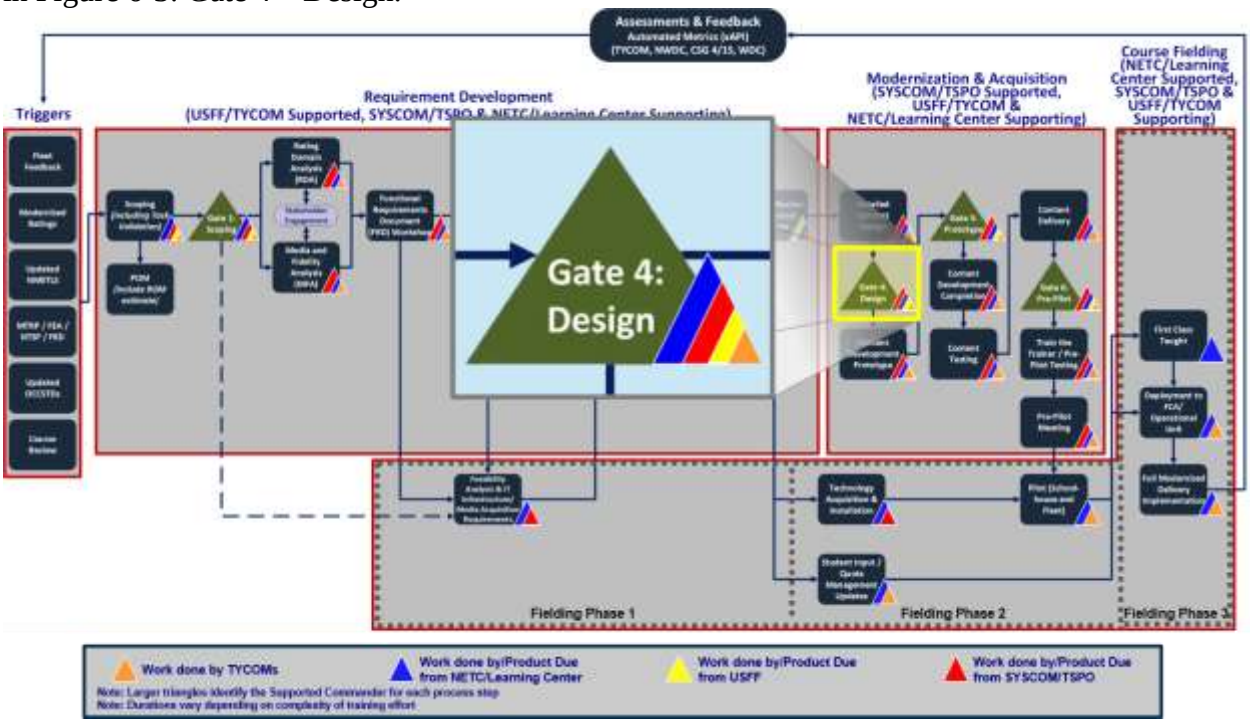

Figure 6-3: Gate – 4 Design

The System Command (SYSCOM)/Training System Program Office (TSPO) are responsible for the administration of the gate review. The rating stakeholders and leads identified in Appendix (H) are invited; however, NETC will provide the approval when required. A checklist for Gate 4 can be found in Appendix (F). The Performing Activity will distribute all documents from the detailed content design step for review and comment a minimum of 10 days before the gate review. Stakeholders will provide written comments and concerns in advance via comment review matrix where possible.

Gate 4 - Design Stakeholder(s):

Organization	Role
USFF	Executive Agent
TYCOM	Supporting
NETC/Learning Center	Supporting - Gate Approval
SYSCOM/TSPO	Supported - Content Design/Acquisition – Gate Coordinator

Gate 4 Review Coordinator: SYSCOM/TSPO

Approval Authority: NETC/Learning Center

Focus of Review: Per rating.

Purpose of the Gate 4 is to provide O-6/GS-15 level review and approval of content design artifacts:

- Sequenced learning objectives
- CMS
- IMDP
- TPP

Gate 4 Entrance Criteria:

- Learning objectives sequenced and reviewed by stakeholders
- CMS complete and reviewed by stakeholders
- IMDP complete and reviewed by stakeholders
- TPP complete and reviewed by stakeholders

Gate 4 Exit Criteria:

- All requests for action from gate review are closed
- The following minimal data uploaded to the authorized NETC content repository:
    - Sequenced learning objectives
    - CMS
    - IMDP
    - TPP

6.4 Content Development Prototype

The purpose of the content development prototype step of Phase III is to test development of the lesson plan, training guide, interactive multimedia instruction, and test materials on a small scale to verify compliance with standards contained within the applicable style guide for a single lesson of the course. This step of Phase III is shown in Figure 6-4: Content Development Prototype.

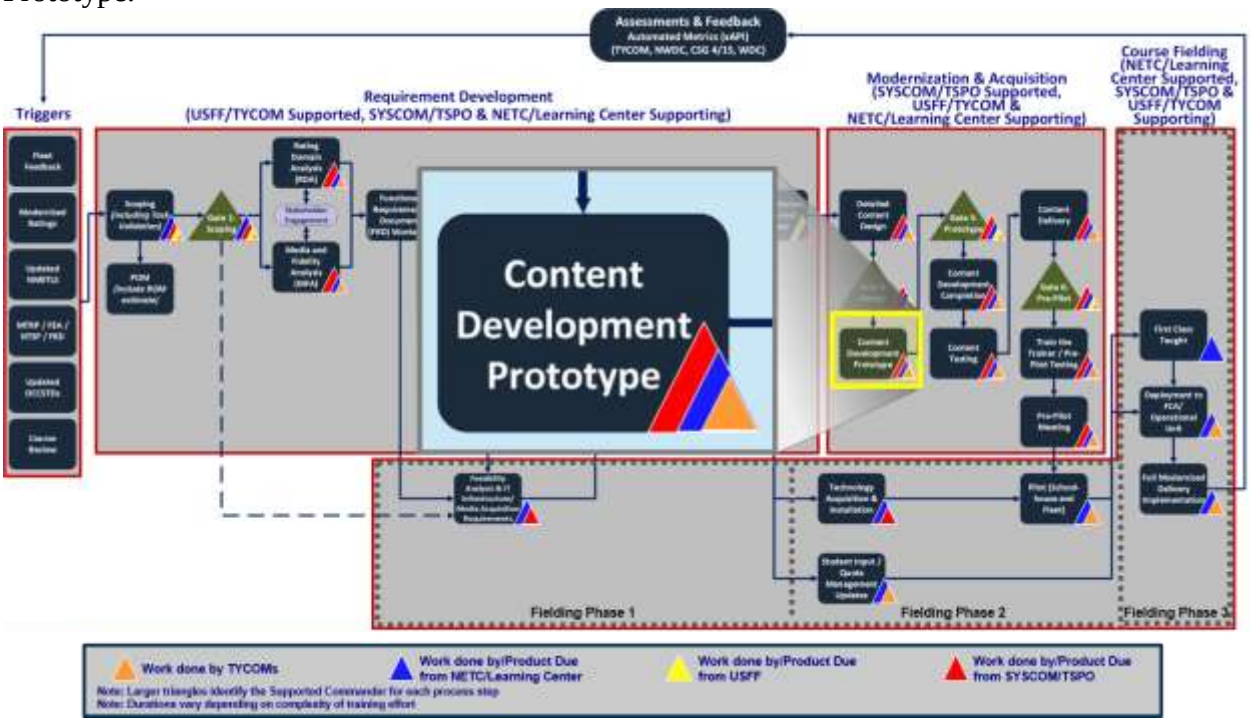

Figure 6-4: Content Development Prototype

Content Development Prototype Stakeholder(s):

Organization	Role
USFF	Executive Agent
TYCOM	Supporting
NETC/Learning Center	Supporting - Approval Authority
SYSCOM/TSPO	Supported Content Development/Acquisition

Content Development Prototype Reference(s):

- MILHBK-29612-DoD
- NAVEDTRA 130B
- NAVEDTRA 132
- NAVEDTRA 135D
- NAVEDTRA 136

- NAVEDTRA 137
- DI-SESS-81518D (Instructional Performance Requirements Document)
- DI-SESS-81519C (Instructional Media Requirements Document)
- DI-SESS-81520B (Instructional Media Design Package)
- DI-SESS-81525C (Test Package)
- MIL-PRF-29612B

Content Development Prototype Input(s):

- Sequenced learning objectives
- CMS
- IMDP
- TPP

Content Development Prototype Output(s):

- TG
- Lesson Plan (LP)
- Interactive Multimedia Instruction (IMI)
- Test questions

6.4.1 Training Materials Development

Training materials include all materials required for the presentation of information and the development of skills during training. These materials may include instruction for performance support, SDIT, and/or IFIT. At a minimum training materials must include:

- LP
- Training Guide (TG)
- Job sheets
- IMI - to include interactive courseware (ICW), computer aided instruction (CAI), PowerPoint (PPT), VSIM, etc.
- Testing material - to include master test bank, test versions, and testing plan
- Training Course Control Document (TCCD)

Training material shall be developed using Government approved authoring software.

During training materials development, in process reviews should be held to review all materials as they are developed.

Training Materials Development Stakeholder(s):

Organization	Role
USFF	Executive Agent
TYCOM	Supporting
NETC/Learning Center	Supporting
SYSCOM/TSPO	Supported - Content Development/Acquisition

Training Materials Development Reference(s):

- NAVEDTRA 130B
- NAVEDTRA 132
- NAVEDTRA 135D
- NAVEDTRA 136
- NAVEDTRA 137
- MILHDBK-29612-3A
- DI-SESS-81525C (Test Package)

Training Materials Development Input(s):

- Sequenced learning objectives
- CMS
- IMDP
- TPP

Training Materials Development Output(s):

- Course training material

6.5 Gate 5 – Prototype

The Gate 5 or Prototype serves as a review and approval of the prototype module artifacts by NETC prior to proceeding to Train the Trainer and course pilot. The SYSCOM/TSPO will document all meeting minutes and provide a Memorandum for the Record (MFR) to include any action items identified. Documentation of action items is important to ensure all outstanding tasks are completed. NETC will provide concurrence to Gate 5 via a signed MFR. Changes to the approved prototype module after Gate 5 approval must be documented via MFR signed by NETC and approved by the RRL ESC. Cost, schedule, or performance changes must be presented for review. The Gate 5 step of Phase III is shown in Figure 6-5: Gate 5 – Prototype.

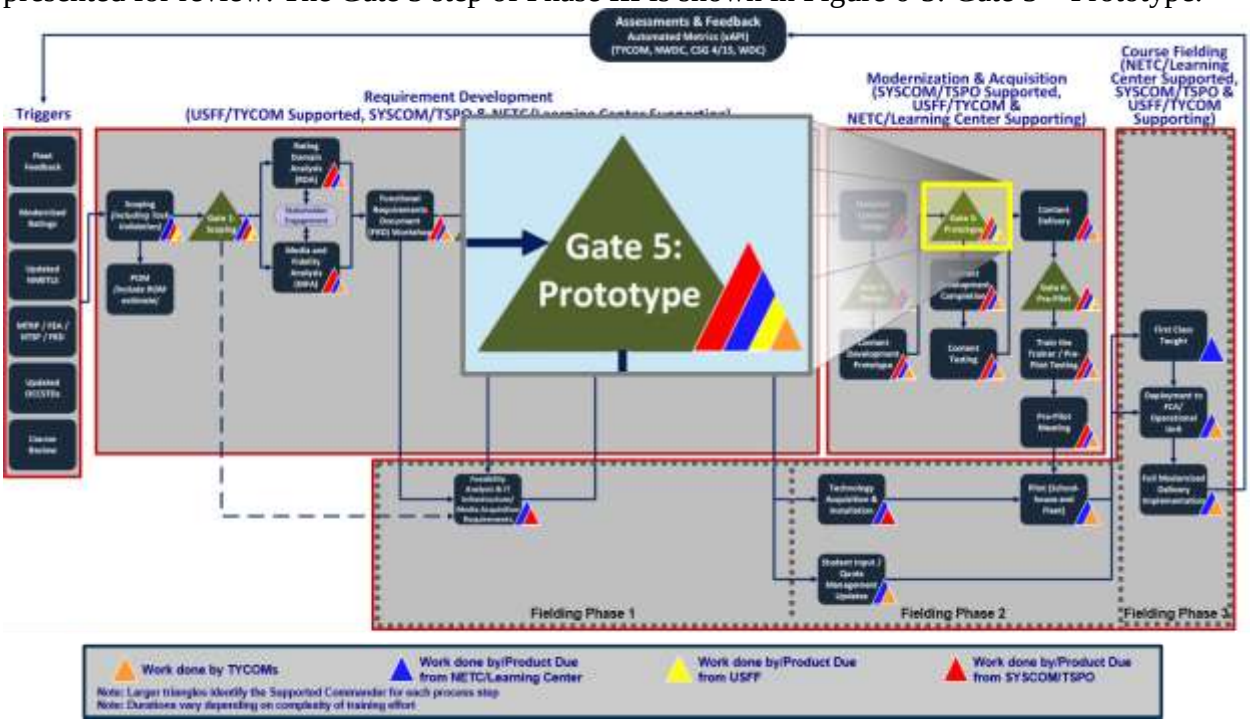

Figure 6-5: Gate 5 - Prototype

The SYSCOM/TSPO are responsible for the administration of the gate review. The rating stakeholders and leads identified in Appendix (H) are invited; however, NETC will provide the approval when required. A checklist for Gate 5 can be found in Appendix (F). The performing activity will distribute all documents from the detailed content design step for review and comment a minimum of 10 days before the gate review. Stakeholders will provide written comments and concerns in advance via comment review matrix where possible.

Gate 5 – Prototype Stakeholder(s):

Organization	Role
USFF	Executive Agent
TYCOM	Supporting
NETC/Learning Center	Supporting - Approval Authority
SYSCOM/TSPO	Supported - Content Development/Acquisition – Gate Coordinator

Gate 5 Review Coordinator: SYSCOM/TSPO

Approval Authority: NETC/Learning Center

Focus of Review: Per rating.

Purpose of the Gate 5 is to provide O-6/GS-15 level review and approval of prototype artifacts:

- LP
- TG
- Job sheets
- IMI - to include ICW, CAI, PPT, VSIM, etc.
- Testing Material - to include master test bank, test versions, and testing plan
- TCCD

Key Events:

- Ensure the completion and adjudication of all required design materials prior to proceeding to Train the Trainer and Course Pilot

Gate Review #5 Entrance Criteria:

- Adjudicated LPs complete and reviewed by stakeholders
- Adjudicated TG complete and reviewed by stakeholders
- Adjudicated job sheets complete and reviewed by stakeholders
- Adjudicated IMI complete and reviewed by stakeholders
- Adjudicated testing material complete and reviewed by stakeholders
- TCCD complete and reviewed by stakeholders

Gate Review #5 Exit Criteria:

- All requests for action from the gate review are closed
- The following minimal data is uploaded to the authorized NETC content repository:
    - LP
    - TG
    - Job sheets
    - IMI - to include ICW, CAI, PPT, VSIM, etc.
    - Testing materials - to include master test bank, test versions, and testing plan
    - TCCD

6.6 Content Development Completion

The purpose of the content development completion step of Phase III is the final stage in the development process. All course material must be fully adjudicated and ready to turnover for Content Testing. This step of Phase III is shown in Figure 6-6: Content Development Completion.

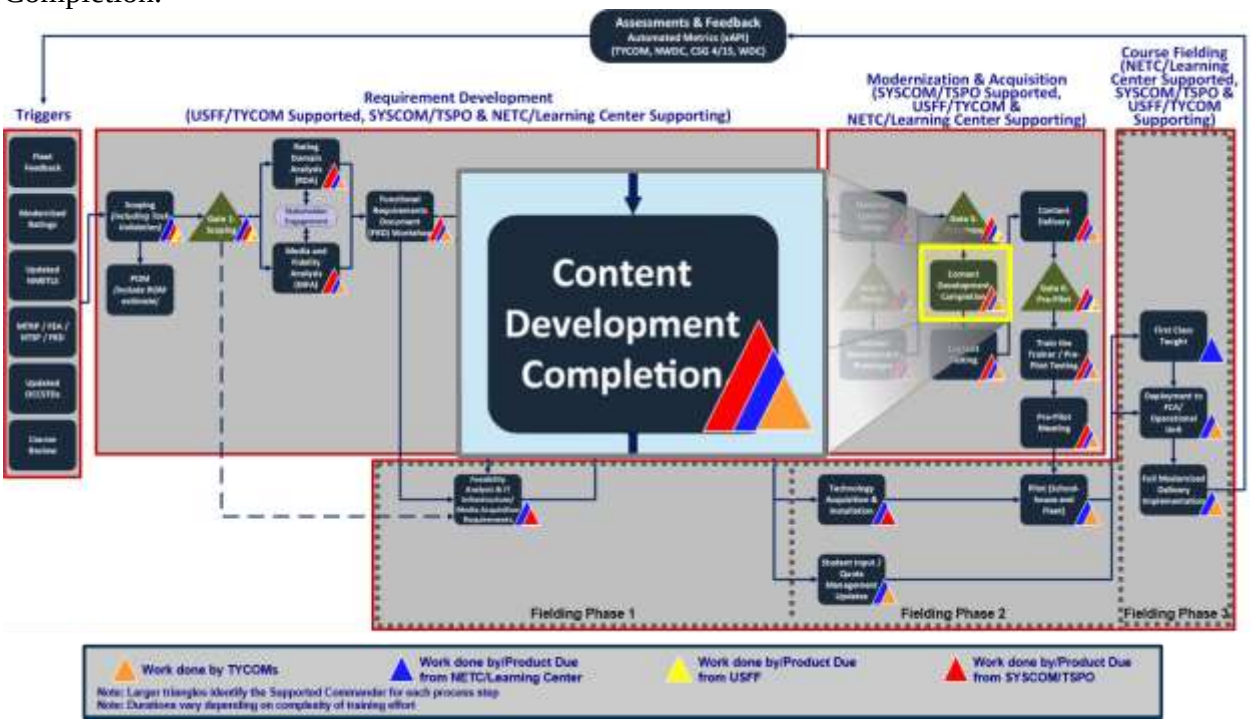

Figure 6-6: Content Development Completion

Content Development Completion Stakeholder(s):

Organization	Role
USFF	Executive Agent
TYCOM	Supporting
NETC/Learning Center	Supporting - Approval Authority
SYSCOM/TSPO	Supported - Content Development/Acquisition

Content Development Completion Input(s):

- LP
- TG
- Job sheets
- IMI - to include ICW, CAI, PPT, VSIM, etc.
- Testing material - to include master test bank, test versions, and testing plan
- TCCD

Content Development Completion Output(s):

- LP
- TG
- Job sheets
- IMI - to include ICW, CAI, PPT, VSIM, etc.
- Testing Material - to include master test bank, test versions, and testing plan
- TCCD

6.7 Content Testing

The purpose of the content testing step of Phase III is to test the VSIM content for playability of the product in the LMS by loading the courseware into the Government Content Acceptance Testing (GCAT) site. It is important to recognize that all content must be finalized prior to GCAT testing, since a significant change in content may require repeated GCAT testing. This step of Phase III is shown in Figure 6-7: Content Testing.

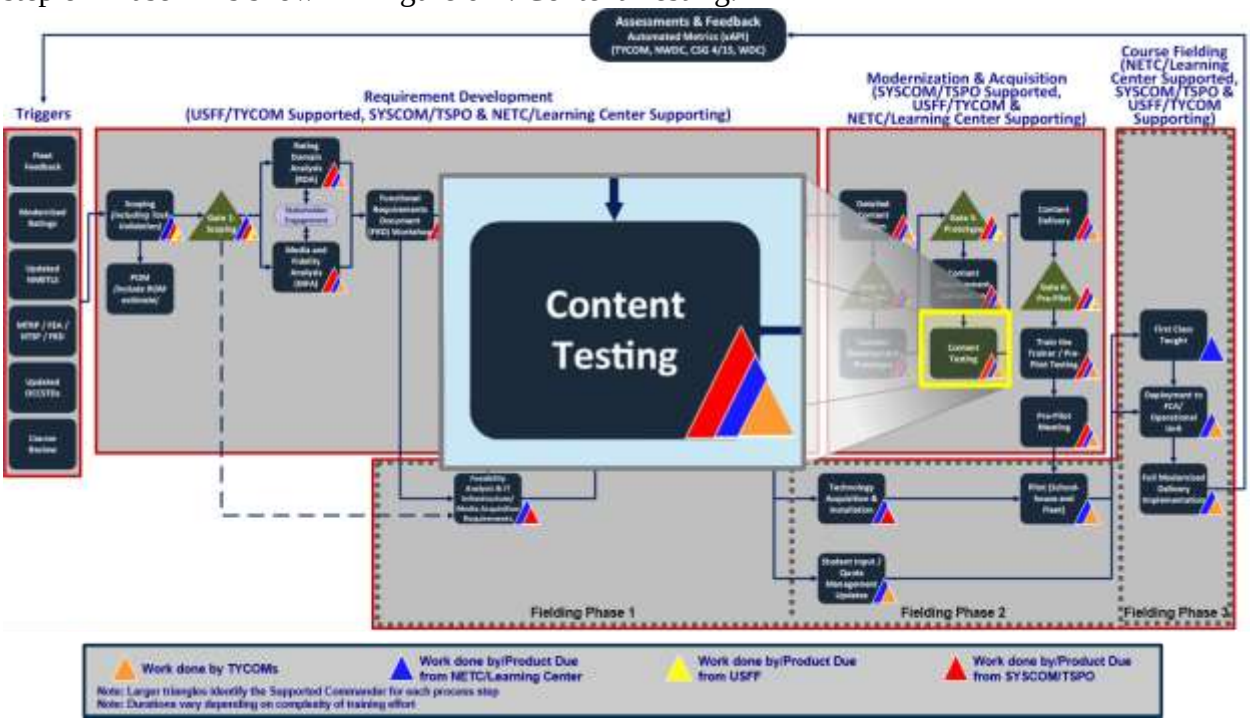

Figure 6-7: Content Testing

ICW 1-3 courseware must be built to the Shareable Content Object Reference Model (SCORM) 2004 specifications, and must also conform to current Experience API (xAPI) standards, where applicable. These standards must be approved by government stakeholders. The ICW 1-3 content will be tested for the playability of the product in the LMS by loading the courseware into the Government Content Acceptance Testing (GCAT) site. The Performing Activity must coordinate with NETC to establish a Content Hosting and Report Management Service (CHaRMS) account for uploading content into GCAT. The course hosting process is available on the NeL website. Course materials planned for NeL LMS delivery are bundled into SCORM content packages. The structure of the content packages is based on the course and lesson flow descriptions that are detailed in the IMDP. It is important to recognize that all content must be finalized prior to GCAT testing, since a significant change in content may require repeated GCAT testing. VSIM, Lab, Mobile, and Standalone products will be tested internally by the contractor using test procedures that have been developed and approved by the government. The contractor will then present their results to the government via test reports and at a Test Readiness Review or Test Technical Interchange Meeting (TIM). Integrated testing of the VSIM, Lab, Mobile, and Standalone products with the government and contractor teams will then be conducted. Any issues that are found during that testing will be addressed and retested.

Content Testing (s):

Organization	Role
USFF	Executive Agent
TYCOM	Supporting
NETC/Learning Center	Supporting - Approval Authority
SYSCOM/TSPO	Supported - Content Development/Acquisition

Content Testing Reference(s):

- NAVEDTRA 136

Content Testing Input(s):

- Course curriculum material
- VSIM content (as applicable)
- Testing plan

Content Testing Output(s):

- GCAT Report
- VSIM, Lab, Mobile, and Standalone Test Reports
- VSIM, Lab, Mobile, and Standalone Test Deliverables
- SCORM content package
- 508 Accessibility Compliance Statement

6.8 Content Delivery

The purpose of the content delivery step in Phase III is to prepare for course pre-pilot activities supporting the ashore and afloat environment. The Curriculum Control Authority (CCA) designated personnel must coordinate with those assigned to manage content delivery to ensure that all training content and support materials (e.g., Interactive Electronic Technical Manuals (IETMs)) allow for course enrollment and completion given technology resources available ashore and afloat. This step of Phase III is shown in Figure 6-8: Content Delivery.

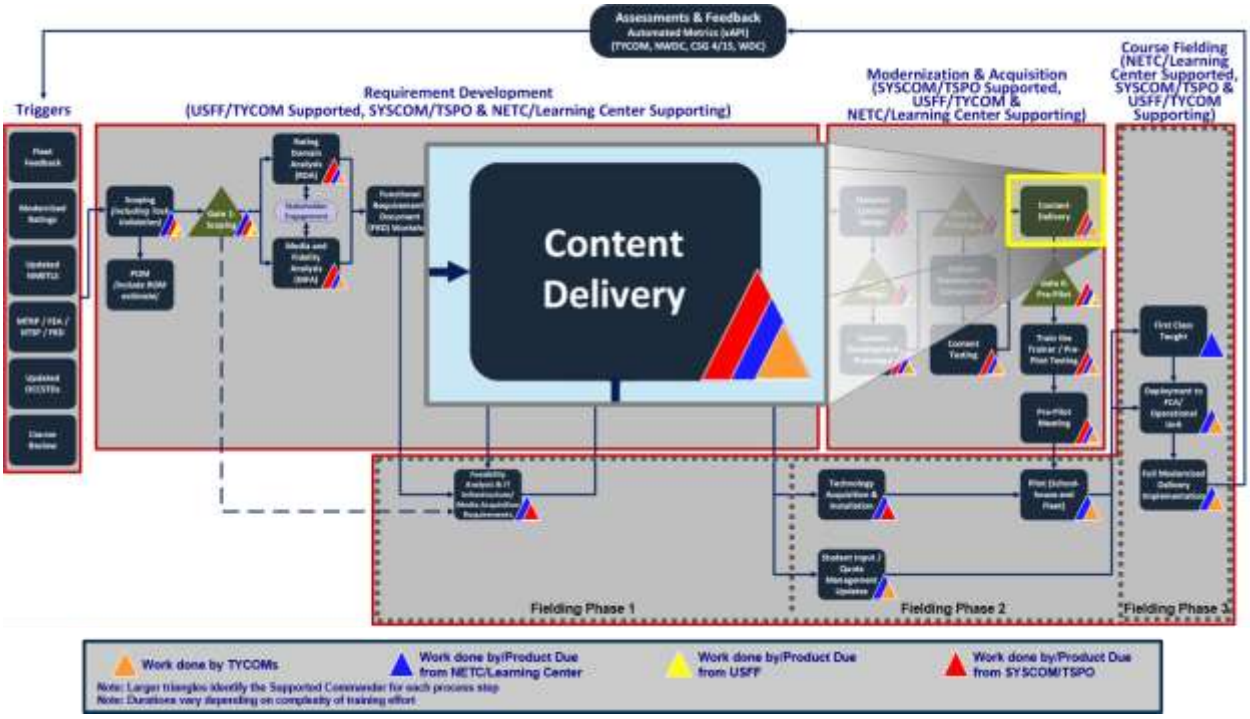

Figure 6-8: Content Delivery

Along with consideration for infrastructure, it is important to ensure that enough time is given to install course materials for implementation afloat. Time for processing can take several weeks. Additional time is needed to allow the afloat and ashore instances of the training to synchronize and update the course data.

Content Delivery Stakeholder(s):

Organization	Role
USFF	Executive Agent
TYCOM	Supporting
NETC/Learning Center	Supporting - Approval Authority
SYSCOM/TSPO	Supported - Content Development/Acquisition

Content Delivery Reference(s):

- MILHBK-29612-DoD
- NAVEDTRA 136

Content Delivery Input(s):

- Course training material
- GCAT report
- SCORM content package
- 508 Accessibility Compliance Statement

Content Delivery Output(s):

- Course curriculum documents
- Facility upgrades completed
- TTE received and validated
- Information Technology (IT) systems installed

6.9 Gate 6: Pre-Pilot

The Gate 6 or Pre-Pilot Gate serves as a review and approval of the pre-pilot artifacts by NETC prior to proceeding to Train the Trainer and course pilot. The SYSCOM/TSPO will document all meeting minutes and provide a MFR to include any action items identified. Documentation of action items is important to ensure all outstanding tasks are completed. NETC will provide concurrence to Gate 6 via a signed MFR. Changes to the approved pre-pilot artifacts after Gate 6 approval must be documented via MFR signed by NETC and approved by the RRL ESC. Cost, schedule, or performance changes must be presented for review. This step of Phase III is shown in Figure 6-9: Gate 6 – Pre-Pilot.

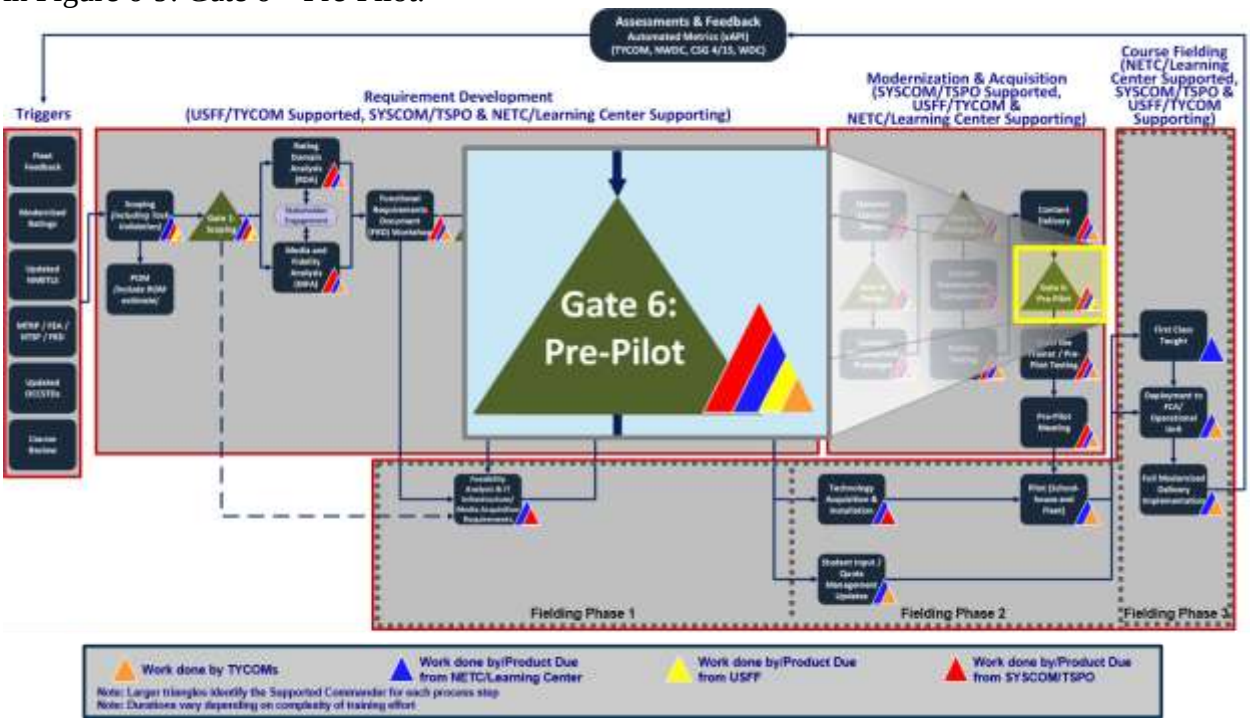

Figure 6-9: Gate 6 – Pre-Pilot

This is the final stakeholder gate review prior to delivering materials for Train the Trainer and Pilot. The SYSCOM/TSPO are responsible for the administration of the gate review. The rating stakeholders and leads identified in Appendix (H) are invited; however, NETC will provide the approval when required. A checklist for Gate Review #6 can be found in Appendix (F). The performing activity shall present all curriculum documents to stakeholders, explain delivery methodologies, and answer stakeholder questions. Minor adjudications may be required during this gate review. The desired output of this gate review is a stakeholder approved curriculum content package, ready for Train the Trainer.

Gate 6 – Pre-Pilot Stakeholder(s):

Organization	Role
USFF	Executive Agent
TYCOM	Supporting - Validation against requirement
NETC/Learning Center	Supporting - Approval Authority
SYSCOM/TSPO	Supported - Content Development/Acquisition / Gate Coordinator

Gate 6 - Review Coordinator: SYSCOM/TSPO

Approval Authority: NETC/Learning Center

Focus of Review: Per rating.

The purpose of the Gate 6 is to provide O-6/GS-15 level review and approval of the curriculum content package:

- Course training material
- Facility upgrade complete
- Technical Training Equipment (TTE) received
- IT systems installed

Key Events:

- Ensure the completion and adjudication of the curriculum content package prior to proceeding to Train the Trainer and course pilot

Gate 6 - Entrance Criteria:

- All course training material complete and reviewed by stakeholders
- Facility upgrade complete (as applicable)
- TTE received and installed by stakeholders
- IT systems installed at training sites

Gate 6 - Exit Criteria:

- All requests for action from the gate review are closed
- The following minimal data is uploaded to the authorized NETC content repository:
    - Course training material
    - GCAT report
    - SCORM content package
    - 508 Accessibility Compliance Statement

6.10 Train the Trainer/Pre-Pilot Testing

The purpose of the Train the Trainer/Pre-Pilot Testing step of Phase III is providing the first opportunity to deliver the new or revised training system development solution in the training environment. The objective is to educate the assigned instructors on the proper delivery, sequence, and approach of the new or revised course using actual training equipment embedded technologies, such as Virtual Task Trainers (VTT) and simulations. It also serves as an initial redline of the training materials. This step of Phase III is shown in Figure 6-10: Train the Trainer/Pre-Pilot Testing.

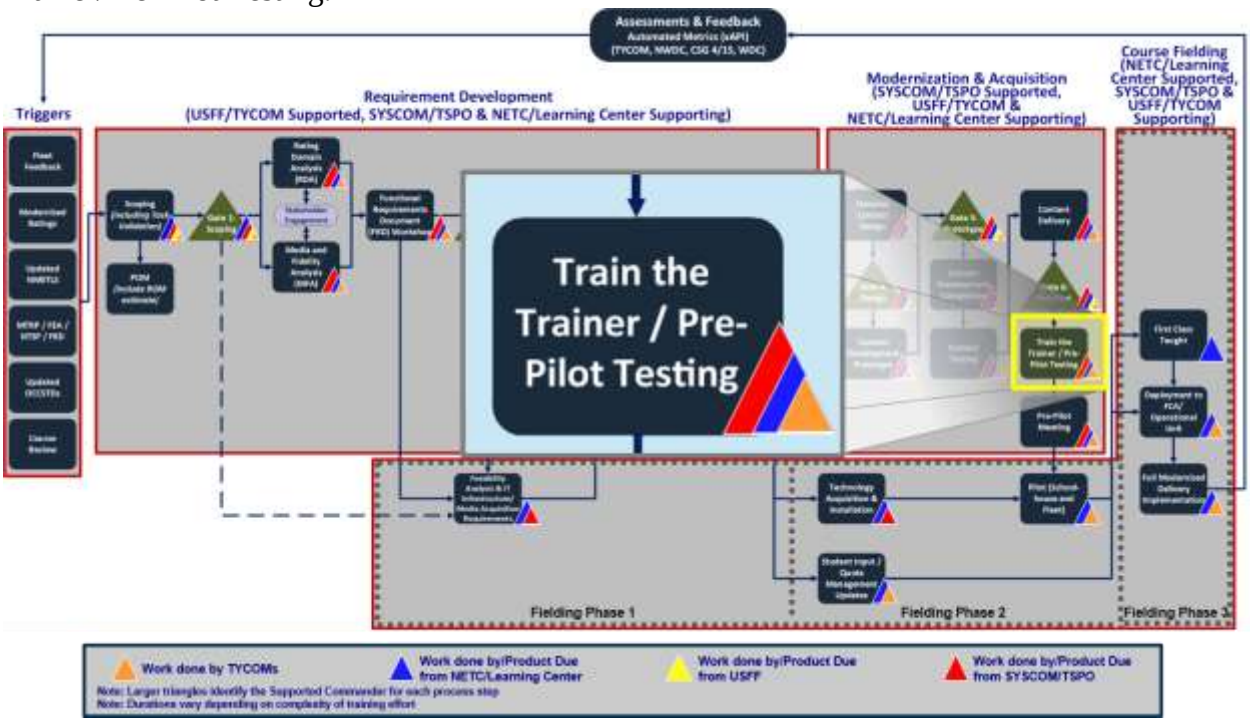

Figure 6-10: Train the Trainer/Pre-Pilot Testing

The Train the Trainer date and location must be coordinated and scheduled with the applicable Learning Center or Training Site to ensure appropriate attendance and participation.

Train the Trainer / Pre-Pilot Testing Stakeholder(s):

Organization	Role
USFF	Executive Agent
TYCOM	Supporting
NETC/Learning Center	Supporting - Approval Authority
SYSCOM/TSPO	Supported - Content Development/Acquisition

Train the Trainer / Pre-Pilot Testing Reference(s):

- MILHBK-29612-DoD
- NAVEDTRA 130B
- NAVEDTRA 136

Train the Trainer / Pre-Pilot Testing Input(s):

- Course training material

Train the Trainer / Pre-Pilot Testing Output(s):

- Redlines
- Comment Resolution Matrix (CRM)

6.11 Pre-Pilot Meeting

The purpose of the pre-pilot meeting step of Phase III is to ensure all stakeholders agree with who will perform the pilot monitoring report, keep the time log, pilot commencement date, and engagement protocols with the instructor staff. This step of Phase III is shown in Figure 6-11: Pre-Pilot Meeting.

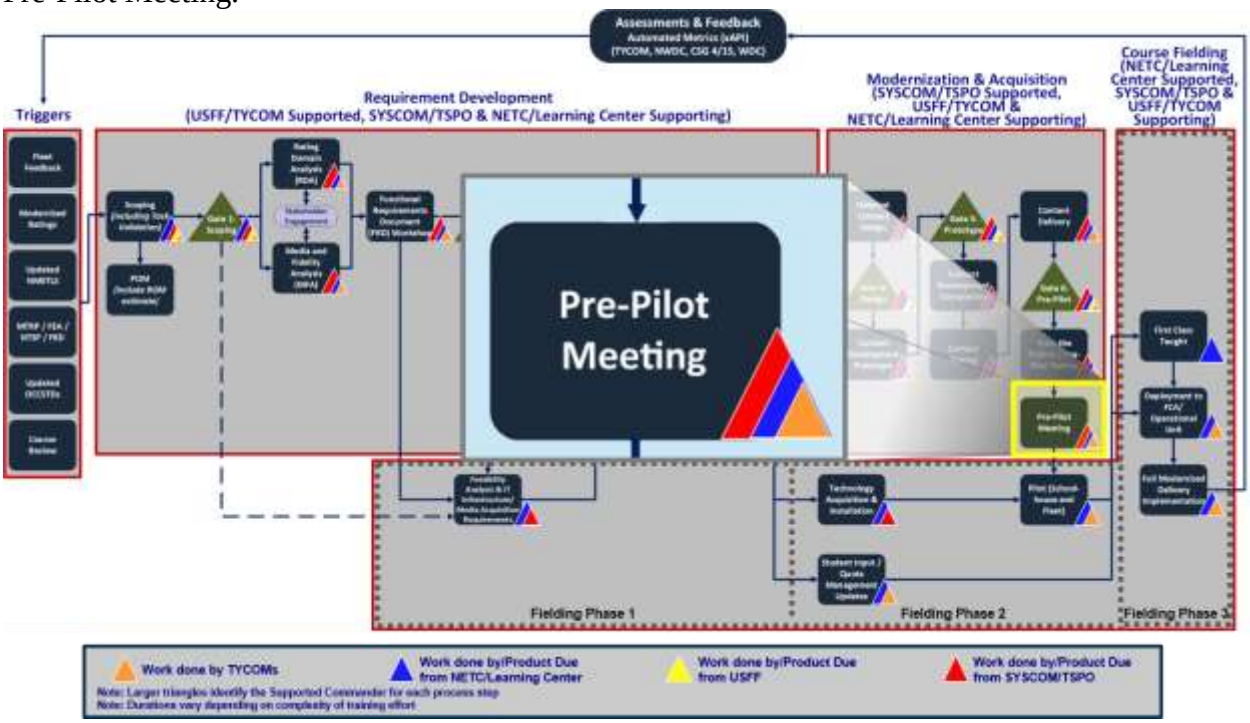

Figure 6-11: Pre-Pilot Meeting

The pre-pilot meeting date and location will be coordinated and scheduled with the applicable Learning Center to ensure appropriate attendance and participation. The pre-pilot meeting must be scheduled at least 60 days prior to pilot for a new course, and at least 30 working days prior to a course revision.

The following information will be discussed and verified during the Pilot kickoff:

- Date and location of convening
- Instructor attendance
- Student attendance
- Travel requirements
- Pilot monitoring
- Status of curriculum material
- Status of facilities, equipment, and IT suite
- Tentative date for pilot adjudication
- Concerns
- Review pilot checklist

Pre-Pilot Meeting Stakeholder(s):

Organization	Role
USFF	Executive Agent
TYCOM	Supporting
NETC/Learning Center	Supporting - Approval Authority / Meeting Coordinator
SYSCOM/TSPO	Supported - Content Development/Acquisition

Pre-Pilot Meeting Reference(s):

- NAVEDTRA 130B

Pre-Pilot Meeting Input(s):

- Course training material
- Pre-pilot meeting brief
- Pilot checklist

Pre-Pilot Meeting Output(s):

- Date and location of convening
- Instructor attendance
- Student attendance
- Travel requirements
- Pilot monitoring
- Concerns
- Completed pilot checklist

7.0 Phase IV – Course Fielding

7.1 Introduction

Phase IV of the RRL process known as course fielding covers the implementation of new and revised courseware at applicable Learning Centers and in the Fleet. Piloting a course in front of live students allows the performing activities to adjust material based on actual Sailor feedback regarding course material accuracy and teachability. Given that Ready Relevant Learning (RRL) focuses on bringing training to the waterfront outside Naval Education and Training Command (NETC) classrooms, careful attention must be paid to materials deployed to Fleet Concentration Area(s) (FCA) and operational units and coordination with the applicable Type Commanders (TYCOMs) is essential. Steps included in Phase IV are shown in Figure 7-1: Phase IV – Course Fielding Process Map.

Note: The initial steps that apply to fielding Phase I reguarding feasibility, analysis, and media acquisition requirements can be found in Section 5.9, and is done as part of requirement development.

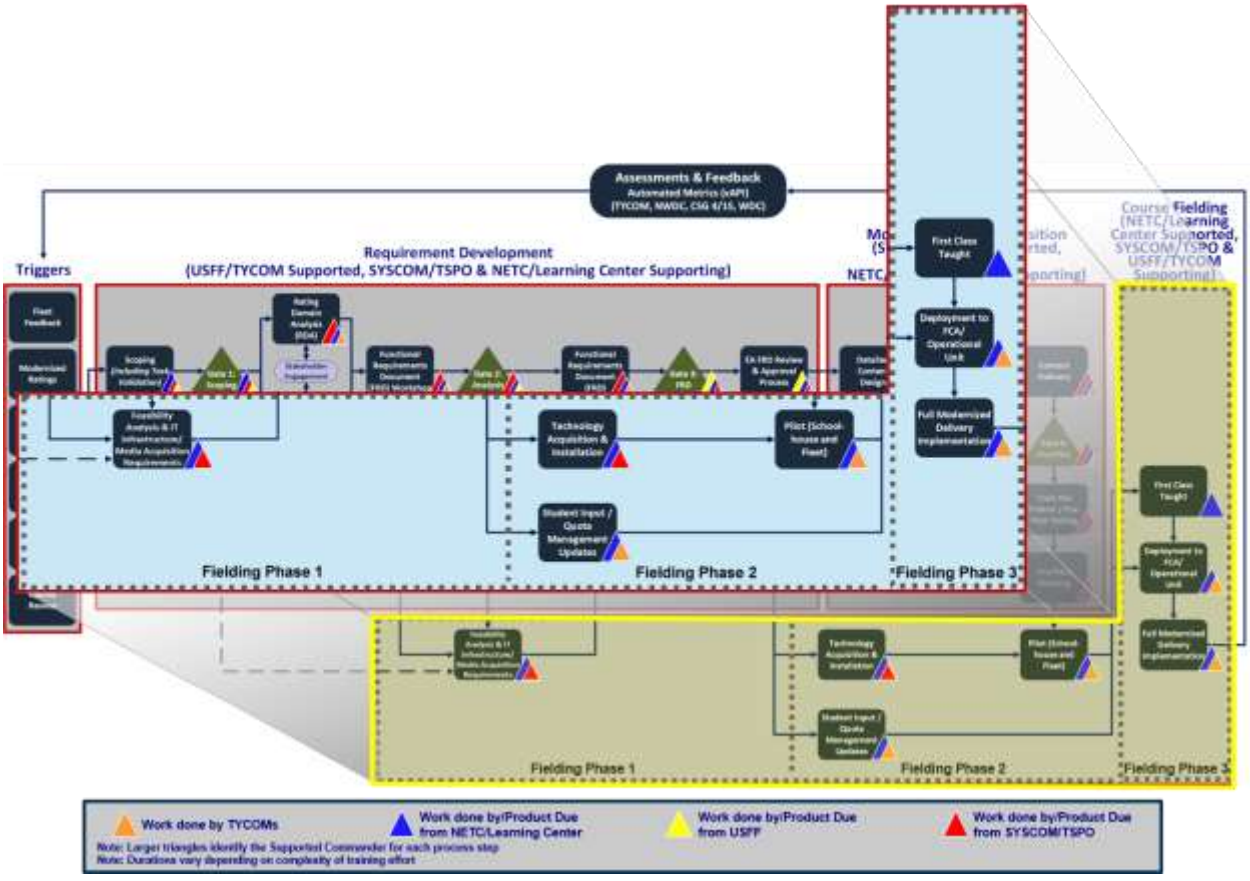

Figure 7-1: Phase IV – Course Fielding Process Map

7.2 Technology Acquisition and Installation

The purpose of the Technology and Acquisition and Installation step of Phase IV is to develop a Technology and Acquisition and Installation Plan. It is developed in response to the requirements defined within the FRD. The plan addresses all technical, business, management, and other significant considerations needed to control the acquisition and attain acquisition goals. This step of Phase IV is shown in Figure 7-2: Technology, Acquisition and Installation.

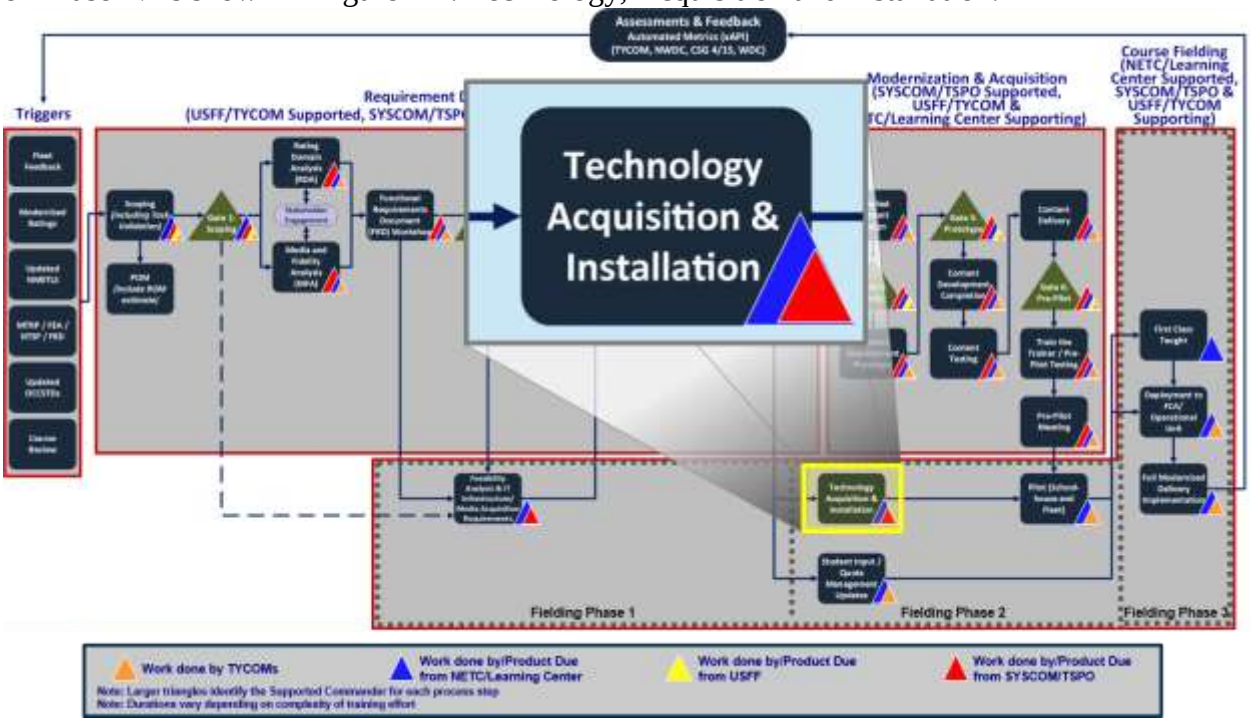

Figure 7-2: Technology, Acquisition and Installation

Planning is documented in either a formal acquisition plan or a program management plan, depending on the value, complexity, and agency requirements. The plan outlines a brief history of the training requirements and acquisition strategies defining a plan of action for completing the acquisition and installation. Effective planning coordinates and directs personnel efforts toward a procurement strategy that results in a successful acquisition.

The System Command (SYSCOM) must validate all development, procurement, operation, and support costs are programmed and funded.

The Training Installation and Transfer Agreement (TITA) is used to allocate fiscal resources and responsibilities for sustainment and define the training requirement transition to the NETC domain (see OPNAVINST 1500.76 (Series)).

A TITA will be completed by the SYSCOM/Training System Program Office (TSPO) for all training development projects. The TITA must include the following:

- Project name
- Purpose of project
- Requirement sponsor
- Projected student utilization
- Assigned Learning Center

- Assigned Training Support Agent (TSA)
- Projected availability of funding
- Resource requirement list with life-cycle maintenance responsibilities for each item
- Projected course life-cycle maintenance

Technology Acquisition and Installation Stakeholder(s):

Organization	Role
USFF	Executive Agent
NETC/Learning Center	Supported
OPNAV N1, High-9s and N2N6	Requirements Validation and Resourcing
SYSCOM/TSPO	Supporting - Training System Acquisition

Technology Acquisition and Installation Reference(s):

- OPNAVINST 1500.76 (Series)

Technology Acquisition and Installation Input(s):

- Functional Requirements Document (FRD)

Technology Acquisition & Installation Output(s):

- Technology Acquisition & Installation Plan
- Draft Training Installation and Transfer Agreement (TITA)

7.3 Pilot (Schoolhouse and Fleet)

The Pilot step of Phase IV is to provide the first full length course conducted in front of students, for both classroom and Fleet delivered training, using the curriculum and supporting training materials prepared specifically for that course/training. The purpose of the course pilot is to validate the Course Master Schedule (CMS), create a time log, and perform a redline of the curriculum to support transition to the Learning Center. No changes to the CMS or course materials are allowed while the course pilot is in progress. This step of Phase IV is shown in Figure 7-3: Pilot (Schoolhouse and Fleet).

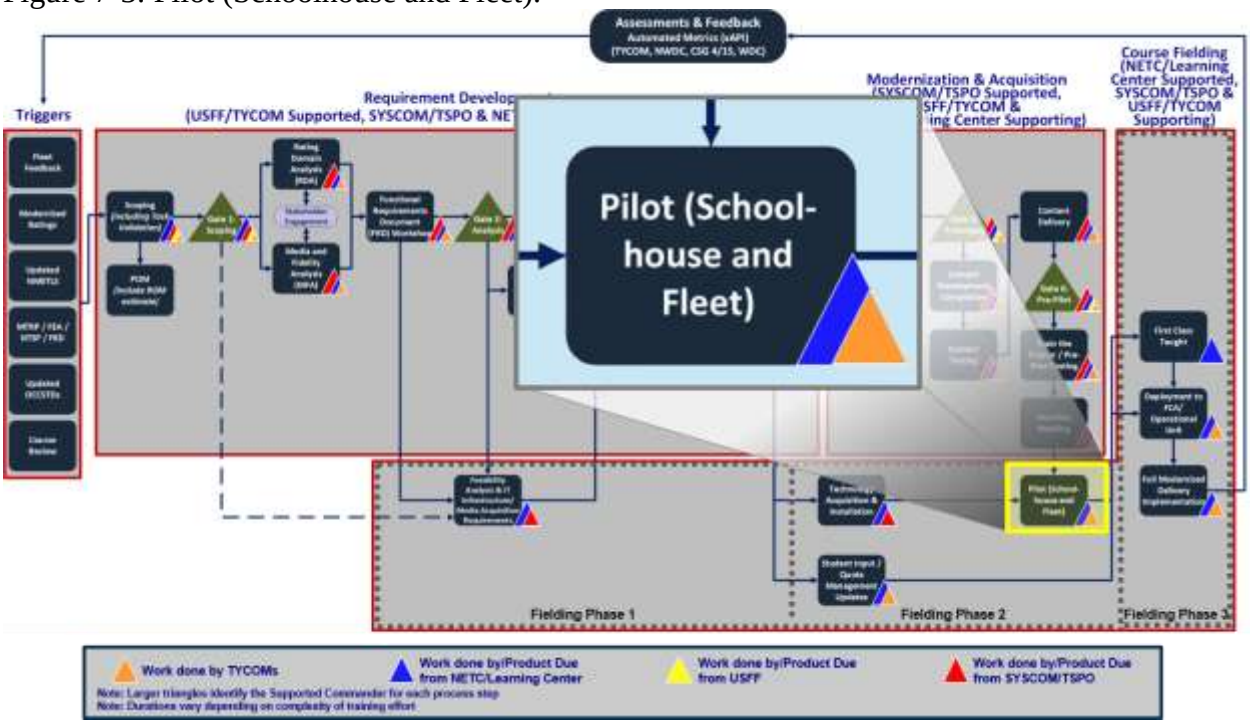

Figure 7-3: Pilot (Schoolhouse and Fleet)

The process for pilots is contained within the NAVEDTRA (Series) and close coordination with NETC well in advance of the pilot is essential to timely execution. The performing activity must attend the course pilot and perform the redlines and produce the pilot monitoring report. The pilot date and location must be coordinated and scheduled with the applicable learning center and/or learning site to ensure appropriate attendance and participation as well as minimize disruption to the training schedule.

NETC will designate the responsibility of capturing and maintaining data within the subordinate commands. NETC provides the standardization, oversight, and accountability functions for the roles and responsibilities outlined in OPNAVINST 1510.10D Corporate Enterprise Training Activity Resource System (CeTARS). The status of students attending training will be captured and reported in CeTARS.

Pilot (Schoolhouse and Fleet) Stakeholder(s):

Organization	Role
USFF	Executive Agent
TYCOM	Supporting - Validation against Requirements
NETC/Learning Center	Supported - Approval Authority
SYSCOM/TSPO	Supporting

Pilot (Schoolhouse and Fleet) Reference(s):

- NAVEDTRA 130B
- NAVEDTRA 136

Pilot (Schoolhouse and Fleet) Input(s):

- Course curriculum material
- Virtual Simulation (VSIM) material

Pilot (Schoolhouse and Fleet) Output(s):

- Redlined course materials
- Comment Resolution Matrix (CRM)
- Pilot Monitoring Report
- Pilot Time Log
- Qualified instructor(s)
- Validated CMS
- Validated training material and media
- Letter of Promulgation

7.4 Student Input/Quota Management Updates

The purpose of the Student Input/Quota Management Updates step of Phase IV is to provide accurate, timely, and reliable student management data. Student management data is critical to the operation of the Navy and provides invaluable information for leadership to make critical resource decisions. This step in Phase IV is shown in Figure 7-4: Student Input/Quota Management Updates.

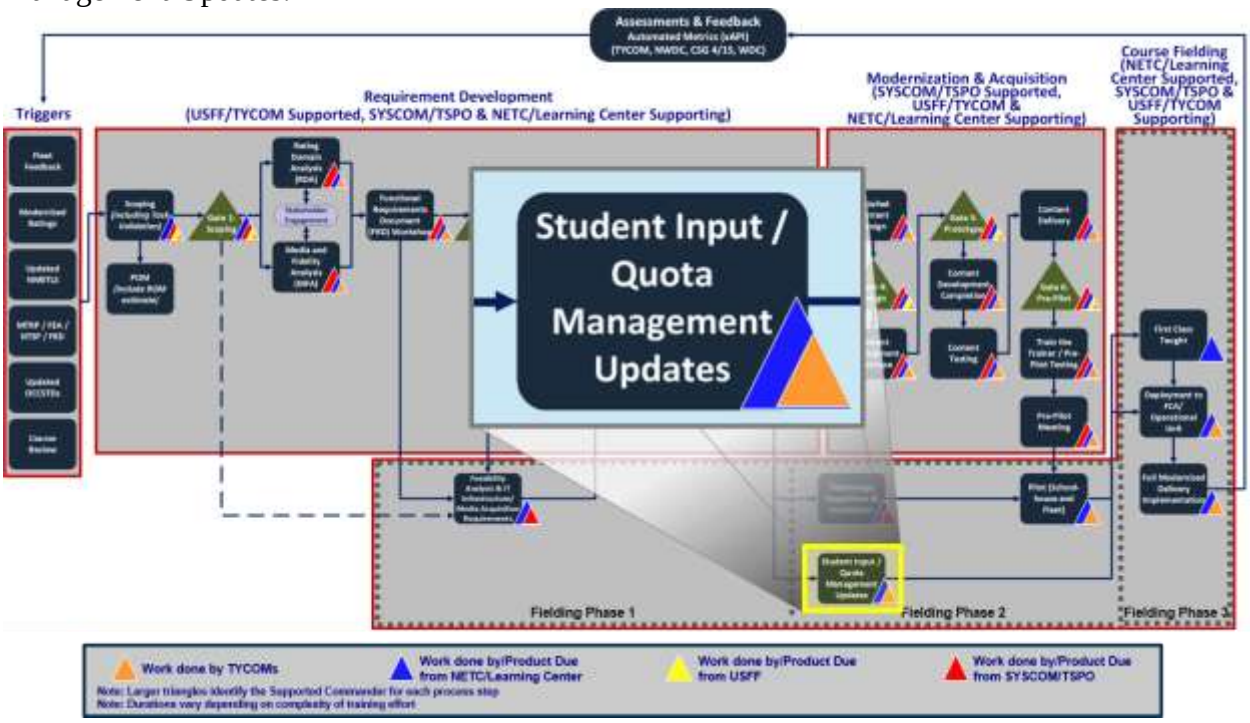

Figure 7-4: Student Input/Quota Management Updates

It is the responsibility of NETC to keep data elements in Corporate enterprise Training Activity Resource System (CeTARS) current and accurate so Catalog of Navy Training Courses (CANTRAC) correctly reflects course information needed by Fleet. Entry of individual students' training information into CeTARS is mandatory for all training courses. All commands conducting Navy training courses are responsible for ensuring accurate and timely reporting of student completion data. It should be noted that reporting of course results afloat may be substantially delayed due to operational factors, such as emission control conditions or degraded/denied communication environments.

After all redlines and changes from the course have been corrected and annotated in the Letter of Promulgation, the First Class Taught represents the first instance of modernized delivery of the revised course. Learning Centers and Learning Sites must carefully continue to monitor course performance and student feedback over the first several convenings to capture critical feedback not previously identified.

Student Input/Quota Management Updates Stakeholder(s):

Organization	Role
USFF	Executive Agent
TYCOM	Supporting
NETC/Learning Center	Supported

Student Input/Quota Management Updates Reference(s):

- OPNAVINST 1510-10D

Student Input/Quota Management Updates Input(s):

- Student training information

Student Input/Quota Management Updates Output(s):

- Student completion data

7.5 First Class Taught

The First Class Taught step of Phase IV takes place once the Learning Center/learning site has fully integrated the new or revised course into its portfolio as certified by the Letter of Promulgation, it is ready to begin instructing Sailors. Operational units and detailers will be able to schedule students in course convenings following traditional processes. This step of Phase IV is shown in Figure 7-5: First Class Taught.

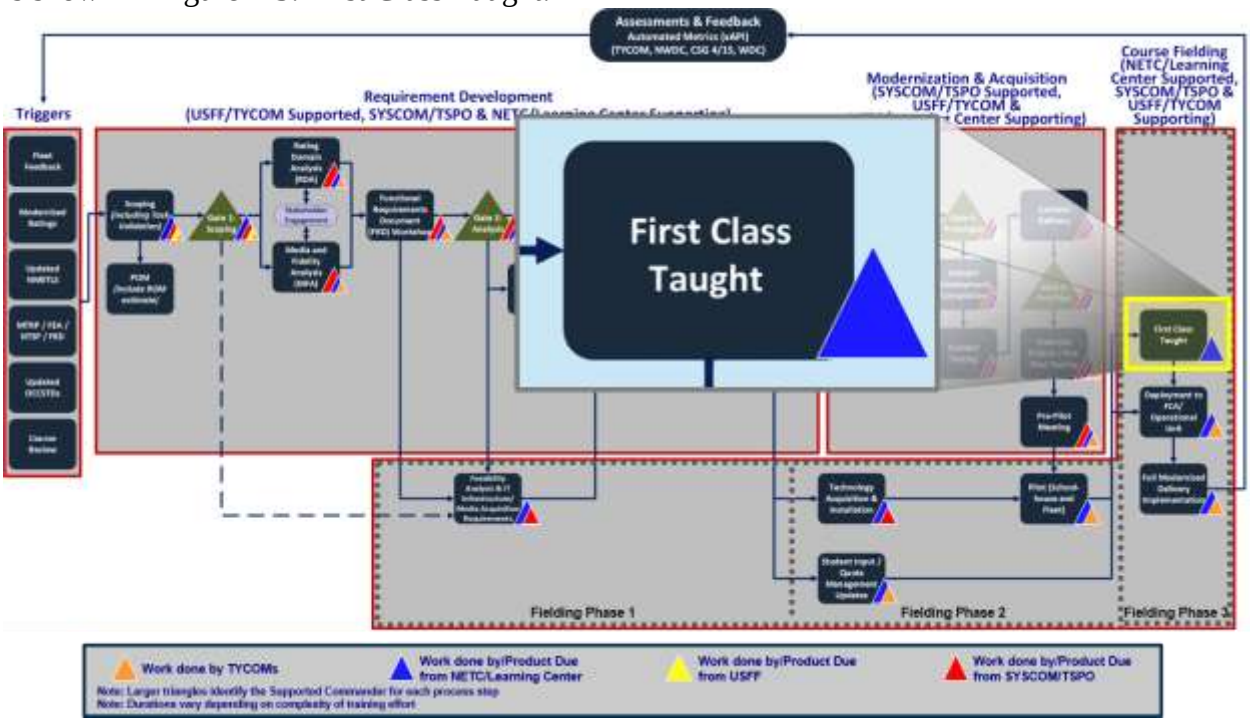

Figure 7-5: First Class Taught

Following a successful course pilot, all required courseware changes must be consolidated and returned to the performing activity. The performing activity will correct all redline changes and deliver to NETC. The applicable Learning Center/learning site and NETC will decide if the changes warrant a second pilot. Learning Centers/learning sites must carefully monitor responses from students from the first several course convenings to capture any critical feedback that was overlooked in the pilot. Once all changes have been incooporated NETC will approve the course and the Letter of Promulgation will be signed.

First Class Taught Stakeholder(s):

Organization	Role
USFF	Executive Agent
NETC/Learning Center	Supported

First Class Taught Reference(s):

- NAVEDTRA 130B
- NAVEDTRA 136

First Class Taught Input(s):

- Post-pilot course material (with redline corrections)
- Letter of Promulgation

First Class Taught Output(s):

- Active NETC course
- Signed Letter of Promulgation

7.6 Deployment to Fleet Concentration Area (FCA)/Operational Unit

The purpose of the Deployment to the FCA/Operational Unit step is to deliver modernized content to Sailors after reporting to their afloat assignment in accordance with the approved Functional Requirements Document. This step of Phase IV is shown in Figure 7-6: Deployment to Fleet Concentration Area (FCA)/Operational Unit.

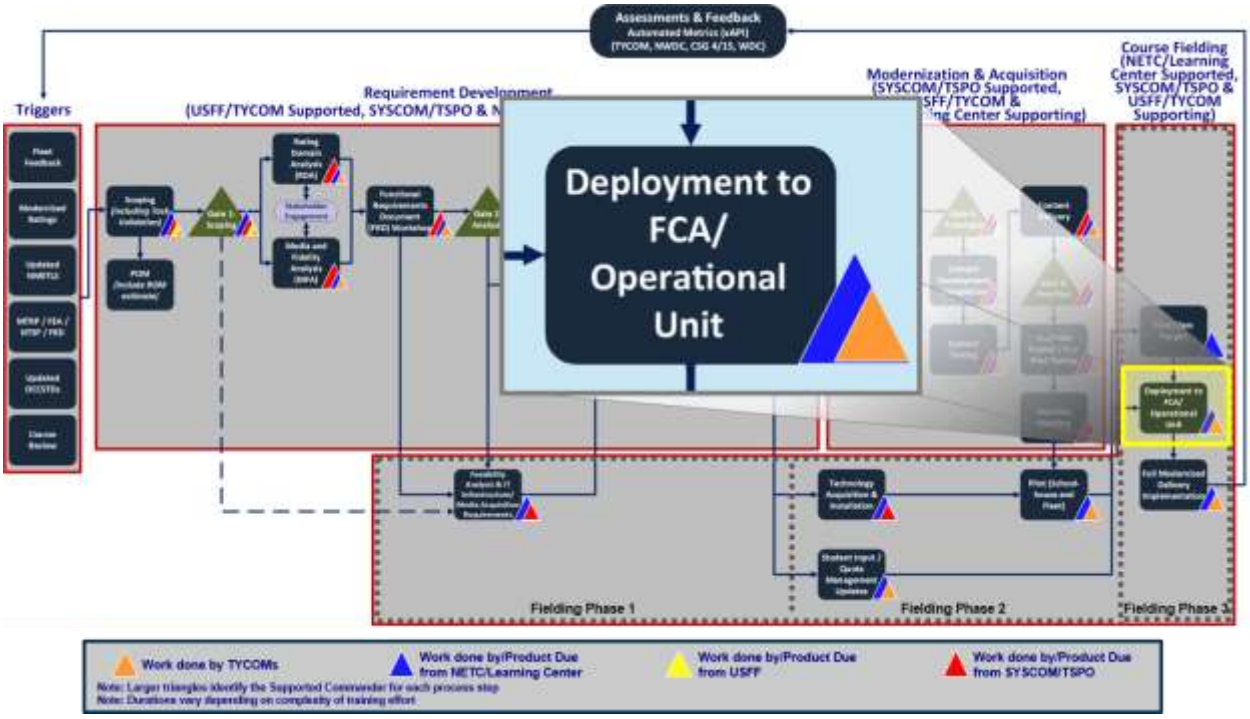

Figure 7-6: Deployment to Fleet Concentration Area (FCA)/Operational Unit

A key tenet to the RRL success is deploying as much training as possible to the FCAs to improve accessibility to the Sailors, both for initial and refresher training. This training can be delivered at the operational command, TYCOM or NETC depending on the requirement.

Training that is developed for fleet delivery aboard a platform will be piloted by NETC at the associated learning center to facilitate heel-to-toe training. Once the pilot and any corrections required are complete, the TYCOM will test the training aboard the appropriate training platform(s) to ensure it functions satisfactorily within the various platform networks and meets the intended purpose.

NETC will maintain all training software and the TYCOM will validate that training can be delivered as designed. Feedback will be provided to NETC prior to final training system turn over.

Deployment to Fleet Concentration Area /Operational Unit Stakeholder(s):

Organization	Role
USFF	Executive Agent
TYCOM	Supporting - Validation against Requirement
NETC/Learning Center	Supported Commander/Responsible/Content Owner
SYSCOM/TSPO	Content Development/Acquisition

Deployment to Fleet Concentration Area (FCA)/Operational Unit Reference(s):

- NAVEDTRA 136
- OPNAVINST 1500.76 (Series)

Deployment to Fleet Concentration Area (FCA)/Operational Unit Input(s):

- Newly developed/revised courseware

Deployment to Fleet Concentration Area (FCA)/Operational Unit Output(s):

- Signed MFR

7.7 Full Modernized Delivery Implementation

The purpose of the Full Modernization Delivery Implementation step of Phase IV is implementation of a course by issuing a Letter of Promulgation (LOP) by the Curriculum Control Authority (CCA). This takes place following the conclusion of the course pilot, after all course material has been finalized and packaged. Formal training of the course will then commence at all designated sites. This step of Phase IV is shown in Figure 7-7: Full Modernized Delivery Implementation.

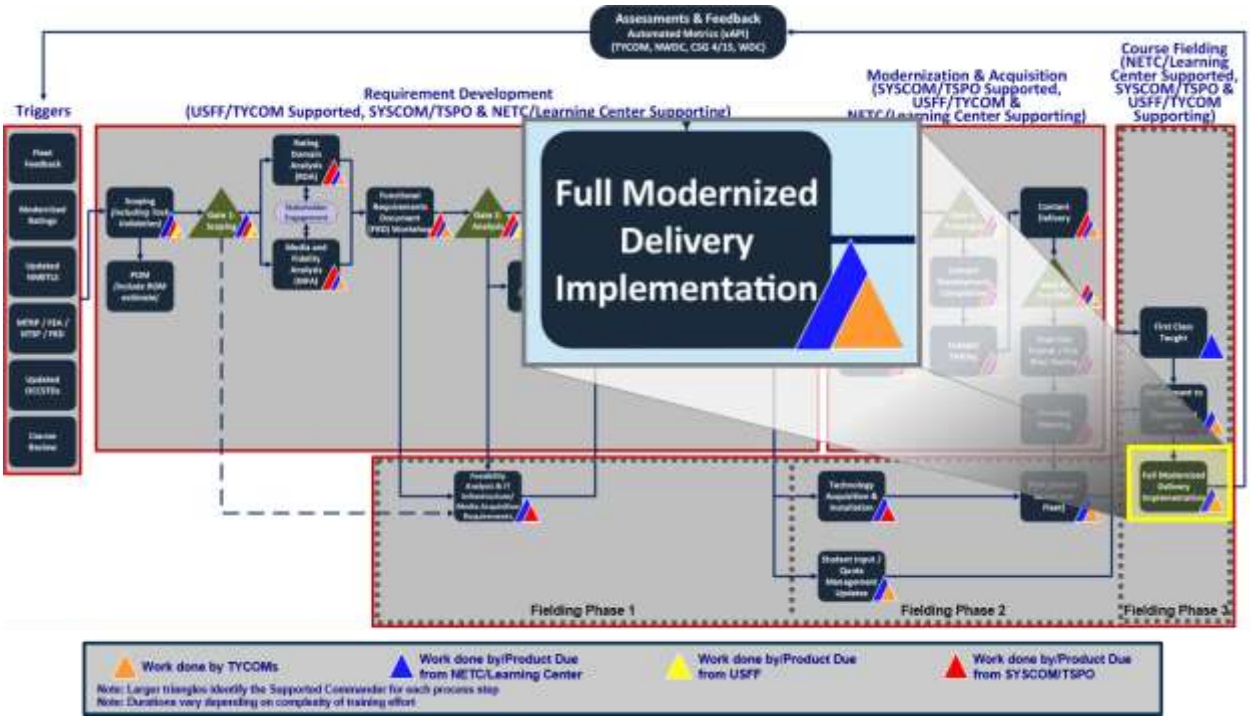

Figure 7-7: Full Modernized Delivery Implementation

As discussed in Section 7.6, turnover is accomplished following applicable sections of the TITA identified in OPNAVINST 1500.76 (Series). Additionally, the Total Lifecycle Cost Estimate (TLCE) Sheet must be updated in order to ensure sustainment costs are included for the training system being delivered. Finally, the out year costs must be entered into the Program Budget Information System (PBIS).

The training material is then implemented by the TYCOMs (afloat training) and by the course curriculum model manager (ashore training) with the Learning Center or training command teaching the course.

Once the final course material is deployed NETC/TYCOM will validate training material functionality and develop the Memorandum for the Record documenting any action items that may be outstanding. A TITA must be finalized by the TSA and signed by both the TA and the TSA transferring responsibility of executing the training. FCA and Operational Unit training materials must be included within the TITA as part of the training system turnover.

Full Modernized Delivery Implementation Stakeholder(s):

Organization	Role
USFF	Executive Agent
TYCOM	Supporting
NETC/Learning Center	Supported

Full Modernized Delivery Implementation Reference(s):

- NAVEDTRA 130B
- NAVEDTRA 136

Full Modernized Delivery Implementation Input(s):

- Finalized Course Curriculum Material
- VSIM
- Source Files
- Authoring Software Export File
- Pilot Monitoring Report
- Pilot Comment Matrix
- Updated TLCE worksheet to include sustainment
- TITA

Full Modernized Delivery Implementation Output(s):

- LOP
- Final Training Installation and Transfer Agreement (TITA)

8.0 Phase V – Assessments & Feedback (High Velocity Feedback)

8.1 Introduction

Phase V of the Ready Relevant Learning (RRL) process known as Assessments and Feedback, as shown in Figure 8-1, occurs after new training is delivered and starts to execute. The Type Commander (TYCOM) must implement a Training Effectiveness and Evaluation Plan (TEEP). This critical process is to ensure training being delivered is effectively transferring knowledge/skills to the Sailor, increasing the Sailor's ability to operate and maintain systems/equipment and therefore, increasing overall Fleet readiness. To properly develop a TEEP, the performing activity should employ the principles of the Kirkpatrick model, as shown below in Figure 8-2, or equivalent model as approved by the RRL Executive Steering Committee (ESC).

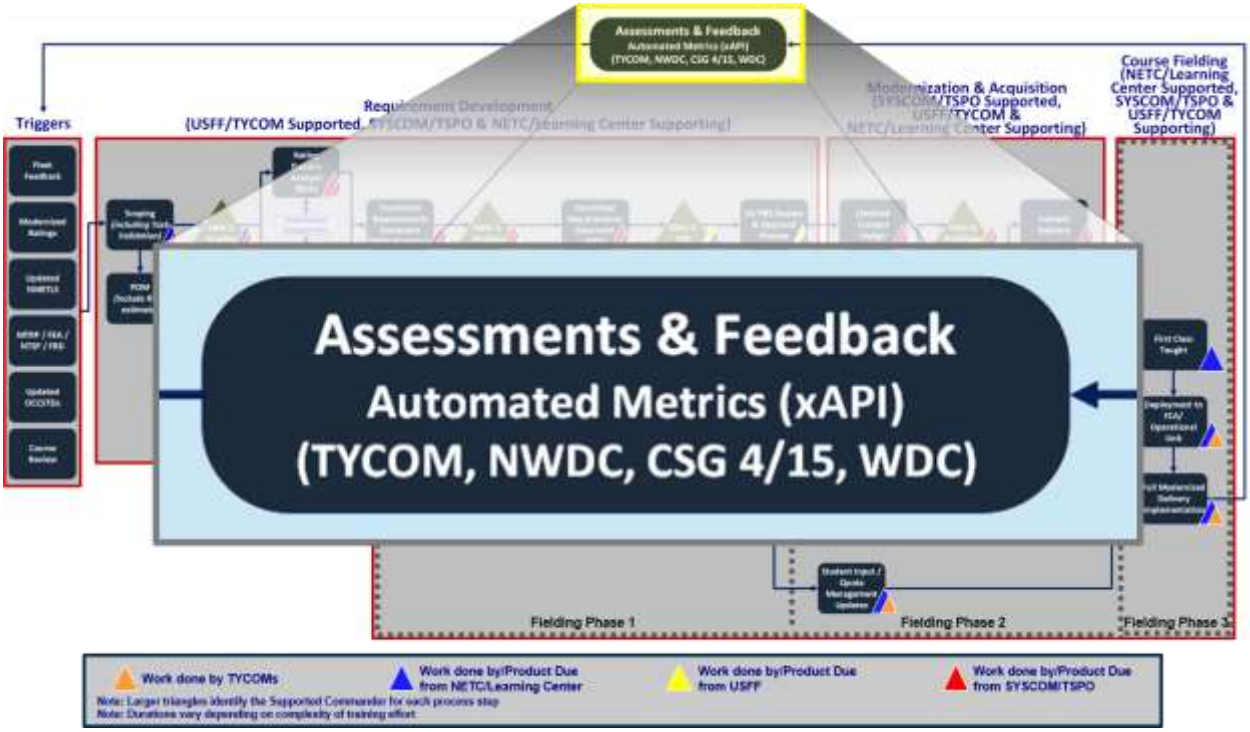

Figure 8-1: Phase V – Assessments & Feedback Automated Metrics

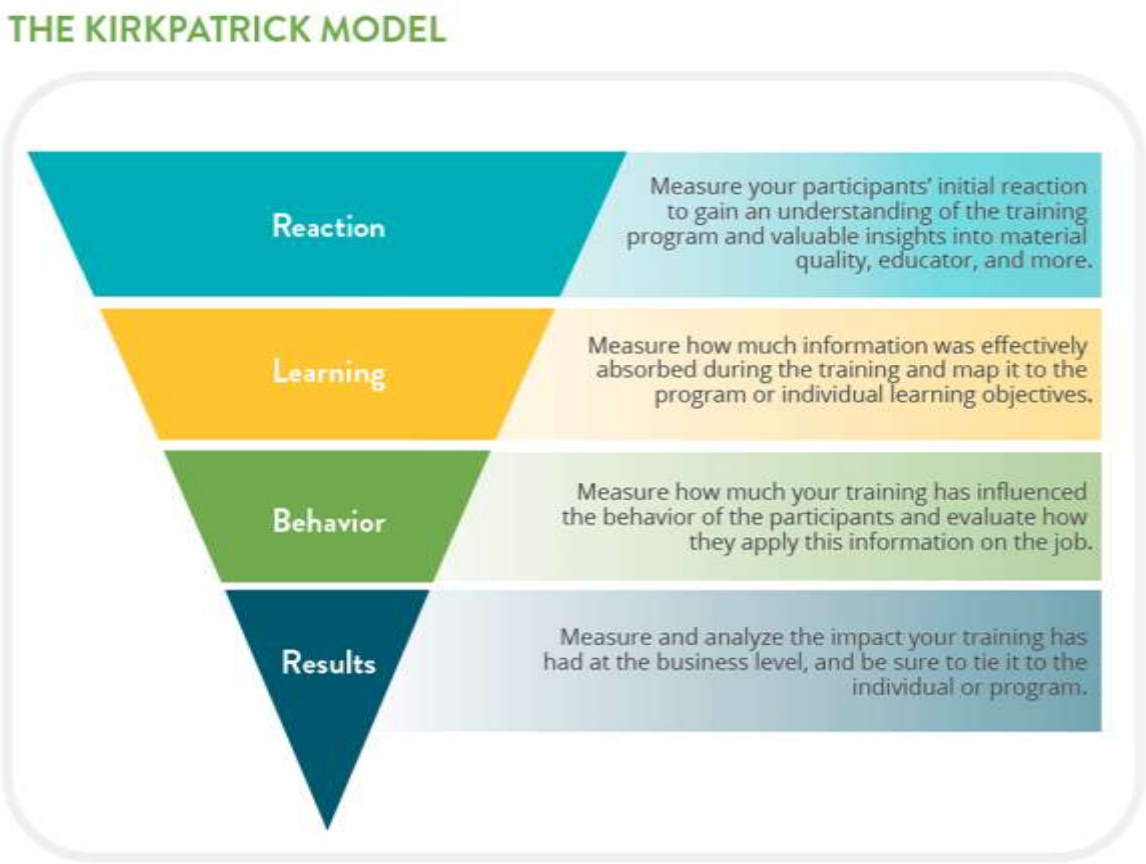

Figure 8-2: The Kirkpatrick Model

The model is composed of four levels: Reaction, Learning, Behavior, and Results as shown in Figure 8-2. They are defined as follows:

- Level 1- Reaction
    - How students react to the training they receive. This can be achieved by delivering post training questionnaires developed in accordance with para 8.2 Assessments and Feedback (High Velocity Learning) of this document.
- Level 2- Learning
    - This shows what the students have learned from the training. This can be measured by conducting pre-tests and post-tests and measuring the difference. It is also recommended that post-tests be conducted 6-12 months following course completion in order to determine how much knowledge is retained.
- Level 3- Behavior
    - Determine if and how students used new skills and abilities in their day-to-day jobs.

- Level 4- Results
    - This will show the overall results from the changed behavior and new skills. If the new training is effective and properly utilized, it must result in an increase in Fleet readiness.

Showing the impact to Fleet readiness is the most difficult part of the model to prove. Since there are a variety of factors that influence readiness, it is almost impossible to prove that training is the cause of increases and decreases in readiness. However, if enough readiness indicators are identified and their trends examined (typically over a three to five year period after new training is implemented), the metrics can show correlation between training and readiness.

The performing activity must identify corresponding Fleet systems and equipment reflective of new/revised training. Metrics and indicators for those systems must be analyzed to show correlation between training and readiness.

The performing activity must compile these training effectiveness metrics and submit to the government sponsor on a regular basis in order to assess whether training needs to be adjusted to better impact readiness.

The plan outlined provides a basic framework to assess the training effectiveness of modernized content. This process is still under development and will be modified and tailored as necessary as training is fielded to produce the most effective method of assessing training impacts. The goal is to standardize methods of assessment and implement efficient processes to provide more rapid and substantial feedback, allowing quicker course adjustments and maximize readiness.

8.2 Assessments and Feedback (High Velocity Feedback)

The framework for training assessment and feedback is based on the Kirkpatrick model, concentrating on four levels – reaction, learning, behavior and results. Historically entities have successfully monitored reaction and learning while struggling to assess impacts to behavior and results. By concentrating on a wide variety of readiness indicators, behavior and results can be analyzed to holistically assess effectiveness of modernized training to Fleet readiness. A key component of the process will also be the need to adjust and tailor assessment methods and readiness indicators as results and lessons learned are obtained to provide the most effective feedback. This step of Phase V is shown in Figure 8-3: High Velocity Feedback.

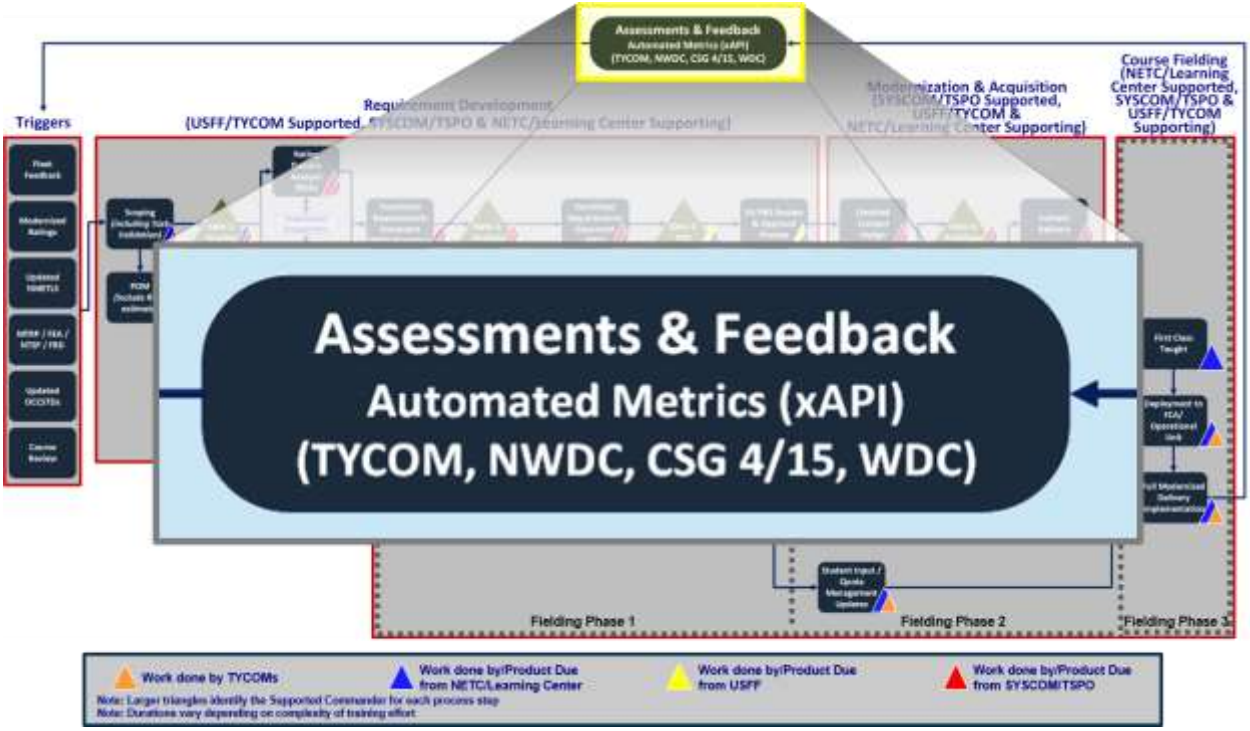

Figure 8-3: High Velocity Feedback

Assessments and Feedback (High Velocity Learning) Stakeholder(s):

Organization	Role
USFF	Executive Agent
TYCOM	Supported - Sustainment Assessment against Requirement
NETC/Learning Center	Supporting
OPNAV N1, High-9s and N2N6	Requirements Validation and Resourcing
SYSCOM/TSPO	Training System Acquisition

Assessments and Feedback (High Velocity Learning) Reference(s):

- OPNAVINST 1500.76 (Series)

Assessments and Feedback (High Velocity Learning) Input(s):

- Completed training
- Applicable readiness indicators (as shown in Figure 8-4: Examples of Readiness Indicators)

Figure 8-4: Examples of Readiness Indicators

Assessments and Feedback (High Velocity Learning) Description:

Holistic assessment is the primary method of evaluating and validating RRL effectiveness and implementing quality assurance. The assessment effort includes significant data collection and analysis of time and delivery methods and the effect on Sailor performance and mission readiness. This process includes:

- Multilevel metric identification, linkage and tracking for effectiveness assessment
- Measurement of skill performance during follow-on shipboard tour
- Monitoring of mission area certification results
- Trend analysis

The TEEP assessment must cover all four levels of the Kirkpatrick method to present stakeholders with the most credible and accurate picture of training effectiveness.

Level 1 Feedback (Reaction):

The Navy currently conducts post course surveys for most schoolhouse training. Level 1 (Reaction) evaluations measure the student's reactions to the course content, materials, learning environment, and instructor's performance. The purpose is to capture the student's perspective of the training as well as affording the students the opportunity for input on their training

experience. Although positive student reactions do not necessarily mean that learning actually occurred, negative student reactions may indicate shortcomings with a course, the training environment, or instructor which leads to reduced learning opportunities.

Student critiques must be developed IAW the following guidelines:

- Keep the evaluation short. Ideally no more than 1 page and no more than 5 minutes to complete.
- Tie questions to the objectives of the training and whether students feel they can apply the material as part of their jobs.
- Ask only about things that can be changed (i.e., material sequencing, lengths of topics, etc.). Do not waste student's time asking about things that cannot be changed (i.e., building location, etc.).
- Use primarily "close ended" questions where students choose from response options, as these are the easiest to develop metrics. Limit choices to five possible responses or less. More responses can be confusing and distracting as most students have trouble finding a differentiation. This could result in poor quality data.
- Include a question about whether they would recommend training to others of similar rate/rating/Navy Enlisted Classification (NEC). This must be the best measure of student satisfaction.

Level 2 Feedback (Learning):

Assessing Sailor knowledge level after training is critical to objectively measuring success. Most Navy courses currently conduct final exams and/or hands-on assessments. Like surveys, these results must be objective in nature and tracked to examine possible trends. Where possible, pre-tests should also be given at the start of training. By measuring the delta between pre/posttests, stakeholders would get a more accurate picture of knowledge and skill attained during the training event.

Level 3 Feedback (Behavior):

Level 3 (Behavior) evaluations measure the graduate's performance of the learned objectives in the actual working environment, (i.e., "on the job"). Specifically, these evaluations are used to ascertain if newly acquired attitudes, knowledge, and skills are being applied in the workplace. For an accurate assessment, the graduate must be given the opportunity to use these newly acquired behaviors. Typically, a good rule of thumb is to schedule the evaluation approximately six months after the training is completed. However, there are occasions when the timing of the evaluation needs to be adjusted to meet other factors. Automated feedback from Fleet systems is the preferred process. In the meantime, a combination of surveys and an interview of the graduate's first-line supervisor needs to be established. The data collected provide meaningful insight regarding transfer of learning from the training environment to the work environment, validate learning objectives, and help identify barriers that detract from this transfer.

Level 4 Feedback (Results):

The performing activity must determine how it plans on measuring readiness in order to correlate it with the revised training. Before selecting appropriate readiness indicators, the executing activities need to correlate operational systems and equipment with the revised training courses.

This could be difficult for non-technical training. The TYCOM should be able to provide the performing activity Subject Matter Expert (SME) assistance if needed.

Once systems are chosen, the performing activity must select applicable readiness indicators show correlation between readiness and training over a period of three to five years. Examples of readiness indicators include Inspection and Survey (INSURV) reports (focusing on target systems), mean time between failures, mean time to repair (MTTR), Afloat Training Group (ATG) assessments, etc. Indicators will have to be tailored for each training course evaluated to give the most accurate readiness picture as it relates to those corresponding systems.

The key to showing changes in readiness is to compare "before" and "after" metrics of the identified readiness indicators. The executive agent must assist the performing activity in obtaining access to databases where this information is stored. The performing activity must gather metrics for these readiness indicators immediately after the new/revised training has been fielded and then approximately three to five years later (TYCOM will determine this interval) and compare "before" and "after" results. The three to five year gap between measurements will allow enough Sailors to attend training, integrate into the Fleet, and participate in multiple operational deployments to be given the best chance at affecting readiness.

Assessments and Feedback (High Velocity Learning) Output(s):

1. Triggers
2. Training Effectiveness Assessments

The performing activity must then compare alike readiness indicators from just after training is fielded, to three to five years later, to allow Sailors to attend training, join the Fleet, and can affect readiness.

The hypothesis is that new/revised training positively affects readiness. By graphically showing how readiness correlates with a more trained Sailors entering the Fleet, the performing activity must be able to either prove or disprove the hypothesis. Graphs may also show that more information or data points are needed. If most readiness indicators positively correlate with newly trained Sailors entering the Fleet, the performing activity can safely conclude that the training has positively affected readiness. If it does not, then a root-cause analysis is needed to determine what parts of the training need to be adjusted.

After the new training/course achieves an adequate amount of run-time (ideally three to five years or at executive agent's discretion), the performing activity must compile results of their analysis for all four steps of the Kirkpatrick model into a comprehensive report. The report must clearly state if revised training is positively or negatively affecting Fleet readiness. As stated above, it is extremely difficult or impossible to show causation but if enough readiness indicators show positive correlation to trained Sailors entering the Fleet, the executive agent can conclude that the new/revised training is effective.

Readiness indicators must be clearly outlined in the report making it easy for stakeholders to identify positive or negative correlation (or inconclusive data).

Findings must be presented by the performing activity to the executive agent at a gate review. At the gate review, based on the data presented, the executive agent will decide if the metrics presented are adequate to determine positive or negative readiness correlation. If the sponsor deems the data inconclusive, the performing activity will find new readiness indicators to better

measure correlation. If the data shows negative or flat readiness correlation, the agent will direct the performing activity to conduct a root cause analysis to discover if training needs improvement. The performing activity must present analysis findings and conclusions to the agent once they are completed, along with actionable recommendations on new/additional training to better target increases in readiness.

Future RRL efforts under Line of Effort (LOE) 3 (reference Fig 1-1) will refine feedback mechanism as part of integrated content development.

Appendix A: References

Doc Number	Title
N/A	Block Learning Recommendations Report
N/A	Career Path Leadership and Development Roadmaps (LaDR) - PERS
N/A	Functional Requirements Document (FRD) Summary Slides
N/A	Media and Fidelity Analysis (MFA)
N/A	Modernization/Upgrade Plan(s) - SYSCOM
N/A	Navy Credentialing Opportunities On-Line (COOL) - NETC
N/A	Navy Enlisted Leader Development Associated PQS/Watch station - NETC
N/A	Ready Relevant Learning (RRL) Business Rules
N/A	Technical Data - SYSCOM
DI-SESS-81518D	Instructional Performance Requirements Document
DI-SESS-81519C	Instructional Media Requirements Document
DI-SESS-81520B	Instructional Media Design Package
DI-SESS-81525C	Test Package
MIL-HDBK-29612-1A	Guidance For Acquisition of Training Data Products and Services
MIL-HDBK-29612-2A	Instructional Systems Development/Systems Approach To Training and Education
MIL-HDBK-29612-3A	Development of Interactive Multimedia Instruction (IMI)
MIL-HDBK-29612-4A	Glossary For Training
MIL-HDBK-29612-5	Advanced Distribution Learning (ADL) Products and Systems
MIL-PRF-29612B	Performance Specification Training Data Products
NAVADMIN 258/10	Announcement of Learning and Development Roadmaps For Enlisted Sailors
NAVEDTRA 130B	Task Based Curriculum Development Manual
NAVEDTRA 132	Navy School Testing Program Management Manual
NAVEDTRA 133A	Training Requirements Review Manual
NAVEDTRA 135D	Navy School Management Manual
NAVEDTRA 136	Naval Education and Training Command Integrated Learning Environment Course Development and Life-Cycle Maintenance
NAVEDTRA 137	Job Duty Task Analysis Management Manual
NAVPERS 18068F	Manual of Enlisted Manpower and Personnel Classifications and Occupational Standards (Volume 1 – Occupational Standards)

Doc Number	Title
NAVPERS 18068F	Manual of Enlisted Manpower and Personnel Classifications and Occupational Standards (Volume 2 - Navy Enlisted Classifications (NECs))
NETCINST 1500.19	Training Requirement Submission, and Course Development, Delivery, and Maintenance End to End Process
OPNAVINST 1510.10 (SERIES)	Navy Training Management
NTRP 1-03.5	Defense Readiness Reporting System - Navy Reporting Manual
OPNAVINST 1500.76 (Series)	Naval Training Systems Requirements, Acquisition and Management
OPNAVINST 3500.34G	Personnel Qualification Standards Program
OPNAVINST 5102.1 (Series)	Navy and Marine Corps Mishap and Safety Investigation, Reporting, and Record Keeping Manual

Appendix B: Glossary

Actual equipment: Actual equipment is fielded in the Fleet, used in the operational environment, and has not been altered for use in training. If located in the schoolhouse it is normally referred to as Technical Training Equipment (TTE) and can normally be procured through the Navy stock system.

Applicable: Must have a training solution that supports the Sailor's entire career and is aligned to or supports the established rating learning continuum by providing the training as close as possible to the points of need throughout a 30 year career. As with skill attainment, the development of major competencies takes place progressively across a learning continuum as students advance from apprentice-level competencies to journeyman-level competencies to advanced, master-level competencies with the right amount of training being provided (or accessible) at the right time in the right amount to facilitate skill development. The goal of each learning continuum is to develop sound decision-making skills that permit Sailors to address circumstances that they may have never seen before, but because of the learning they have received and the skills that have been developed, they will have the tools to make correct, sound decisions in the absence of complete and perfect information.

Assessable: Includes a robust assessment process to periodically evaluate knowledge and skills throughout the learning process, helps to identify weak learning areas, and tailors remedial training to enable the attainment of required skills.

Augmented reality/see also mixed reality, virtual reality, and Immersive Virtual Environment (IVE): The integration of digital information with the user's environment in real time. Augmented reality systems use camera-captured video of the real world, and then overlay virtual content, for example using a head-mounted display. The user then interacts with the virtual objects using gesture- or voice-based interactions. Unlike virtual reality, which creates a totally artificial environment, augmented reality uses a wide range of devices to superimpose computer-generated images, information, and data over the real-life surroundings. The main distinction between augmented reality and mixed reality is that mixed reality provides the ability for the virtual and real world to interact in real-time.

Career Progression Timeline (CPT): Identifies specific timeframe within a Sailor's career when work is expected to be performed on the job so that training tasks are aligned closer to the time of need.

Checklist: A job aid that lists task steps. Can be electronic, mobile, or paper-based. Typically used with performance support or SOJT. A checklist may include a static or interactive list used for training, performing tasks, or following a process. A checklist may take on several different types of presentations and devices. A checklist can include a list of items, names or tasks for comparison, verification, or checking purposes. When used for SOJT purposes, a checklist may require signature by supervisors observing or assessing trainee performance.

Concept: A category that includes multiple examples. It comprises a group of objects, ideas, or events that are represented by a single word or term and share common features.

Constraints: Limitations or restriction placed upon a project that the project manager and team must potentially work within.

Decision tables: A task decision-making aid that shows all possible decisions and consequences. Commonly used for complex tasks. Can be electronic, mobile, or paper-based. Typically used with performance support or SOJT.

Demonstration animation: Animated video that shows the dynamics of a task that cannot be seen naturally with the human eye. Can be electronic or mobile. Typically used with Performance Support, SOJT, or IFIT.

Demonstration video: Video that shows how a task is completed or orients the Sailor to the job environment and/or equipment. The video uses real humans and real equipment. Can be electronic or mobile. Typically used with performance support, SOJT, or IFIT.

Facts: Unique and specific information usually represented in the form of statements.

Feasibility analysis: Evaluation of the draft Functional Requirements Document (FRD) by Naval Education and Training Command (NETC) and the applicable Learning Centers to determine the practicality and feasibility of implementing the proposed training solutions.

Fleet concentration area (FCA): Geographic area that has a large concentration of U.S. Navy airfields, bases, piers, shipyards, shore installations, training facilities and supporting commands/infrastructure.

Formal course review (FCR): Used to evaluate the course materials for technical accuracy and teachability, evaluate course conformance to standards and instructions, assist in overall management of the course, and assist in identifying areas for course improvements.

Full system trainer: Recreates the entire platform or entire system, physical objects and software. It represents a realistic, artificial training environment allowing personnel to acquire and practice skills in scenarios not possible or practical in actual settings. It provides a comprehensive range of task and environmental cues and consequences related to the training requirements.

Hybrid mobile app: Works across platforms and behave like native apps. Users can install it on their device like a native app but it is actually a web app. These types of apps are built with JavaScript, hypertext markup language (HTML), and cloud services stack (CSS) and run in Web view. A hybrid app consists of two parts. The first is the back-end code built using languages such as HTML, CSS, and JavaScript. The second is a native shell that is downloadable and loads the code using Web view.

Functional Requirements Document (FRD): The overall requirements document for a specific rating that serves as the final training and manpower requirements and provides the timeline and requirements for training. The document will serve as a foundation for design and development of revised training tasks.

Government-furnished information (GFI): Information owned by the government made available to the contractor. GFI will include all course materials, reference documents, technical manuals, and any other information provided by the government for the requirement development phase.

High Velocity Feedback: Timely capturing of performance and retention data at time of training to provide ability to assess and immediately implement process improvements.

ICW-1: NOTE: Given current technology and training practices there is almost no practical situation where student-controlled Level 1 IMI would apply. This level would more likely apply to instructor-facilitated presentation of mostly linear training material.

- **Instructor interactions:** Performs basic interactions with the delivery system (e.g., paging through content)
- **Student interactions:** Passive to limited participation; may perform basic interactions with the delivery system as directed
- **Audiovisual media:** Text; photos; video/audio - if customer-supplied or if minimal production and postproduction is required (i.e., can be recorded using simple devices with little or no editing necessary); 2-D/3-D graphics (not complex); repurposed or customer-supplied complex graphics (where no editing or revision is necessary); interactive graphical user interface (GUI) (menus, submenus); minimal hyperlinks/hotspots; customer-supplied animations; simple animations of parts/equipment/process flows; check-on-learning animations
- **Menu/path:** Navigation should be primarily linear with occasional simple menus/submenus to one or two paths and then return (e.g., moving page-to-page by clicking on the "Next" button or on objects that advance the presentation in a linear path); however, they may be designed for the user to be able to respond to instructional cues (e.g., objects on the screen such as point-and-click objects, rollover objects, and drag-and-drop objects). Using hotspots or blue robs to advance the screen is the same as clicking "next" to advance (still essentially a linear progression). Designed as an information-only or an information-plus-demonstration strategy
- **Learning activities:** Including but not limited to, practice activities with feedback limited to recall of information presented or separately directed as lab activities
- **Comprehension checks:** Including but not limited to, multiple choice, matching, etc. with immediate instructor feedback or system-generated feedback as appropriate

ICW-2: This may include personal computer (PC)/desktop simulation Type I at Immersion Level 1 and Fidelity Level A. [See PC/desktop simulation.] NOTE: Given current technology and considering the most basic computer use, almost all self-paced IMI falls into Level 2, which relies heavily on Level 1 elements (e.g., mostly linear presentation and simple menus to one or two paths) but with audiovisual elements developed at a more complex level. The exception would be Level 2 IMI with embedded Level 3 learning activities (e.g., PC simulation to perform procedural skills, or application of principles such as tactics, or a PC simulation as a lab activity).

- **Student interactivity: Performs moderate to complex interactions with the delivery system**
- **Audiovisual media:** Audio/video (e.g., can be recorded using a simple device and little editing necessary); 3-D graphics; interactive GUI (menus, submenus); hyperlinks/hotspots; animations of parts/equipment/process flows; check-on-learning animations
- **Menu/path:** The learner makes simple responses to instructional cues and interacts with objects on the screen such as point-and-click objects, rollover objects, and drag-and-drop objects (e.g., simple item selection, procedural response). Interaction offers feedback and

remediation. The learner has more control over navigation with two or three menu/path capability. It is designed as an information-only or an information-plus-demonstration strategy

- **Learning activities:** Including but not limited to, procedural skills demonstrated by the courseware and procedural skills via previously un-encountered scenarios, both with immediate feedback
- **Comprehension checks:** Including but not limited to, multiple choice, matching, etc. with immediate system-generated feedback, and previously un-encountered procedural skills scenarios

ICW-3: May include PC/desktop simulation Type I at Immersion Level 1 and Fidelity Level B. PC/Desktop Simulation.

- **Student interactivity:** Performs complex interactions with the delivery system
- **Audiovisual media:** Audio/video; 2-D/3-D Graphics (complex); interactive GUI; coded activities (e.g., guided practice, emulation, games, simulation of parts of systems, animations, and Check on Learning)
- **Menu/path:** A level of interactivity that most often applies to specific learning activities within a Level 2 lesson (e.g., a learning activity to perform procedural skills, or application of principles such as tactics, or a PC simulation as a lab activity). It involves simulated activities such as a how-to guide for learning software; simulated activities depicting diagnostic procedures; simulated operational procedures; and simulated activities for troubleshooting. The learner controls the learning experience by responding to instructional cues (i.e., presentation of stimulus) that may involve open-ended navigation. The learner is encouraged to branch (test out or otherwise skip content already mastered), make decisions, and alter paths, and receives constructive feedback. The learner uses varied techniques in response to instructional cues involving complex concepts, procedures, and evaluation. A lesson may present complex operation and maintenance procedure scenarios. The lesson may be designed as an information plus demonstration plus application strategy, or as a whole task-centered with demonstration application strategy.
- **Learning activities:** Including but not limited to, practice with immediate feedback is mostly application of procedural skills, with ample opportunities to practice, but not with free-play.
- **Comprehension checks:** Including but not limited to, testing with tailored remediation; and adaptive branching based on pretest performance. There should be few, if any, recall of information questions in a Level 3 learning activity.

ICW-4: This may include virtual world or augmented reality and is most likely Type II, Immersion Level 2, with Level of Fidelity B or C. Level 4 incorporates realistic graphics and physical feedback via electric motors, force feedback, pneumatics, and hydraulics utilizing state-of –the add technology for simulation and communication. It also typically provides capability for real-time simulation and immersion of performance in the operational setting with automated feedback. Additional information is available in MIL-HDBK-29612-3A.

Immersive Virtual Environment (IVE): A combination of virtual simulation and courseware that immerses trainees in a realistic 3-D virtual environment to train job tasks in settings that more closely align with real-life scenarios.

Instructional Media Design Package (IMDP): Details the design intent for each module and lesson within the course and describes how the course will achieve the intended learning.

Interactive Multimedia Instruction (IMI): IMI is a term applied to a group of predominantly interactive, electronically delivered training and training support products. IMI products include instructional software and software management tools used in support of instructional programs.

Job aid: A source of information (checklist, procedural guide, decision table, worksheet, algorithm, etc.) used by job incumbents to aid in task performance.

Kirkpatrick model: A worldwide standard for evaluating the effectiveness of training which considers any value of any type of training, formal or informal, across the four levels of the model. The four levels are:

- **Reaction** – How students react to the training they receive. This can be achieved by delivering post training questionnaires (developed In Accordance With (IAW) the Questionnaire section in this document).
- **Learning** - This shows what the students have learned from the training. This can be measured by conducting pre-tests and post-test and measuring the difference. It is also recommended conducting post-tests 6-12 months following course completion in order to determine how much knowledge is retained.
- **Behavior** – Determine if students used new skills and abilities in their day-to-day jobs.
- **Results** - This will show the overall results from the changed behavior and new skills. If the new training is effective and properly utilized, it must result in an increase in Fleet readiness.

Leadership and Development Roadmaps (LaDR): Written guides that explain in detail what each Sailor needs at rating-specific points along a career-development continuum in a Navy career. LaDRs were developed by subject matter experts (SMEs) with input from the enlisted community managers at the Bureau of Naval Personnel and have been validated by the Fleet. (Ref: NAVADMIN 258/10)

Learning objectives: A description of what the learner must achieve to successfully complete the course of instruction, including terminal and enabling objectives. Learning objectives are constructed based on content type, as defined as follows:

- **Concept:** A category that includes multiple examples. It comprises a group of objects, ideas, or events that are represented by a single word or term and share common features.
- **Facts:** Unique and specific information usually represented in the form of a statement.
- **Procedure:** A sequence of steps that are followed systematically to achieve a task or decision. A procedure contains directions or procedural tasks that are done in the same way every time.

- **Process:** A flow of events that identify how something works. Topics that list a chain of events that are performed by an organization usually represent a process.
- **Principle:** Consists of directions that outline guidelines for action in which people must adapt the rules to various situations. Principles typically require a person to make decisions when applying them. Tasks that are completed in different ways each time by applying the guidelines usually represent principles.

Media and Fidelity Analysis (MFA): Determining the most effective method and modality for teaching each training task, based on the initial findings from the Rating Domain Analysis (RDA), in order to optimize training effectiveness, based on science of learning insights as well as environmental and cost constraints. The four broad categories that may be identified for each task are:

- **Performance support** – training used at the point of need, when performing a specific activity or task. If Performance Support is the only suitable strategy selected, this means the behavior required by the task does not require training. A new Sailor would be able to take basic skills and apply them to more complex tasks using ONLY a Performance Support tool.
- **Structured on-the-job training (SOJT)** – An extension of on-the-job training (OJT) that already occurs throughout the Fleet. SOJT includes more standardized practices applied while training. This will ensure all Sailors receiving a specified rating's training are receiving the same type of training in all locations within which that rating operates.
- **Self-directed interactive training (SDIT) –** A content delivery mode that encompasses a more complex type of content that supports refresher training, skill expansion, new system or procedure familiarization, or part-task training. SDIT is designed to be used as reference or for short episodic training that is accessible just prior to a Sailor's need. Highly effective and engaging content, delivered via distributed systems such as NeL or mobile applications, can take the form of part task training apps on a mobile device or an adaptive simulation on a virtual desktop.
- **Instructor-facilitated interactive training (IFIT)** – A more traditional training set in a classroom or lab and lead by an instructor. IFIT can also be recommended for delivery before or after a Sailor is at his or her first assignment.

Military characteristics document (MCD): A document that outlines required characteristics of a training device that it must be capable of performing or stimulating, including physical and operational characteristics, though not technical characteristics.

Mixed reality: The merging of real and virtual worlds in real time to produce new environments and visualizations where physical and digital objects co-exist and interact (e.g. integrating digitized objects into the real world that users can interact with, and which can occlude the real-world objects that are hidden behind them). Typically used with IFIT. The main distinction between augmented reality and mixed reality is that mixed reality provides the ability for the virtual and real world to interact in real-time. Like virtual reality, mixed reality systems also use

head-mounted displays; however, the field of view is typically constrained to around 100 degrees.

Modern Media: Training software development is a critical part of the readiness drivers that RRL is designed to enhance. To be best utilized and the most effective, the following media attributes are provided:

- **Media Scalability: Media should be designed to run on multiple platforms:** computer, tablet, phone, etc. where practical to provide mobility and reuse.
- **Approved, Interoperable, and Reusable:** Software used to deliver the training must be approved for use on Fleet (afloat/shore) platform IT systems and intended shore classroom IT systems. In determining operating software environments common standards such as Unity, HTML, Shareable Content Object Reference Model (SCORM) and experience application programming interface (xAPI) should be utilized to ensure interoperability and reusability.
- **Immersive/Performance Based:** Training media should be designed to allow the sailor to perform the procedure or operation being trained and to practice with both "reps and sets" of critical tasks and progressing difficulty.
- **Expandable:** Before media is developed, analysis should be completed to determine if the media could be used in other applications throughout the learning continuum allowing for spiral development of additional functionality and training capabilities.

Navy training systems plan (NTSP): A Navy acquisition document that communicates manpower, personnel, and training (MPT) gaps and needs to be met by a new acquisition or modernization program. When the resource sponsor approves a final or updated NTSP, it is the official record of the training planning process to help the sponsoring enterprise define the system's MPT requirements. (Ref: OPNAVINST 1500.76 (Series))

Occupational standard (OCCSTD): Expresses the Navy's minimum requirements for enlisted occupational skills established by manpower and personnel managers. OCCSTDs state what enlisted personnel must do in their rate or rating. OCCSTD skills are stated in the form of task statements. The knowledge required to perform a task is inherent to the proper performance of the task. Development of specific knowledge to support OCCSTDs falls under the purview of Navy training commands. OCCSTDs are listed for each rate and rating in NAVPERS 18068F, Volume I.

Performance support: A content delivery mode where content is accessible and useful at the time of need, tailored directly to the activity being supported. Performance support is designed as on-the-job performance support for use in the operational environment, but it can also be used in a training setting via a Learning Management System (LMS) as training support or supplemental training materials (e.g., as a reference, resource or condition statement). Performance support can take the form of a basic checklist, tables (arrays), annotated diagrams, interactive media providing additional reference to procedures, or how-to videos. Multiple performance support media can be embedded within training content to support learning objectives.

Performing activity: The organization performing the work.

Personnel Qualification Standards (PQS): PQS is a mandatory qualification process for officer, enlisted, government civilians, and contract civilians to certify a minimum level of competency to properly operate a ship, aircraft, or support system. PQS delineates the minimum knowledge, skills, and abilities that an individual must demonstrate before standing watches or performing other specific duties. (Ref: OPNAVINST 3500.34 (Series))

Planning, Analysis, Design, Development, Implementation, Evaluation, and Life-Cycle Maintenance (PADDIE+M): An instructional systems design framework used by training performing activities. The name is an acronym for the seven phases that are utilized in developing courses: Planning, Analysis, Design, Development, Implementation, Evaluation, and Life-Cycle Maintenance.

Principle: Consists of directions that outline guidelines for action in which people must adapt the rules to various situations. Principles typically require a person to make decisions when applying them. Tasks that are completed in different ways each time by applying the guidelines usually represent principles.

Procedure: A sequence of steps that are followed systematically to achieve a task or decision. A procedure contains directions or procedural tasks that are done in the same way every time.

Process: A flow of events that identify how something works. Topics that list a chain of events that are performed by an organization usually represent a process.

Program objective memorandum (POM): A recommendation from the Services and Defense Agencies to the Office of the Secretary of Defense (OSD) concerning how they plan to allocate resources for a program(s) to meet the Service Program Guidance (SPG) and Defense Planning Guidance (DPG).

Progressive: Developed training must build skills in a logical manner, permitting students to learn basic concepts through the use of computer simulation , then builds on those concepts with Instructor-Led Training (ILT) in a classroom, then exercise or apply derived knowledge (basic or fundamental application) in an autonomous virtual environment through an Intelligent Tutoring System (ITS), then graduate to instructor-led simulation to develop higher end applied skills, followed by a capstone event for performance demonstration and assessment in either a simulated or live environment to demonstrate skill mastery that draws all of the threads / major elements of the learning and refreshes knowledge gained on Day One of the training. Depending on the targeted skills, not all steps or phases of this process are required for skill attainment. The process has flexibility and will vary depending on the course materials and targeted skills.

Rating career-long learning continuum: A career-long timeline for each rating, from recruit to retirement, where a Sailor can examine every path their rating may take and the required training to meet career goals. The timeline consists of, but is not limited to:

- Recruit training
- Rating specific training
- Fleet qualifications
- SOJT
- Professional/managerial development

- Leadership training
- Credentialing
- General military training (GMT) requirements

Rating domain analysis (RDA): Evaluation of job responsibilities, primarily through conducting interviews with Fleet SMEs, across a Sailor's career that are then mapped on a CPT to recommend time of training, so Sailors receive training closer to the point of need in order to increase training transfer. The RDA report outlines initial "to-be" training update recommendations, resulting in the following outputs:

- Task timing recommendations
- A high-level CPT for each rating's training path
- Identification of training gaps
- Identification of overtraining (redundant, outdated, or otherwise needs to be removed)

Ready Relevant Learning (RRL): Provides the right training at the right time utilizing the right methodology by aligning training to proper points of need during a Sailor's career.

Sailor 2025: The Navy's program to improve and modernize personnel management and training systems to more effectively recruit, develop, manage, reward, and retain the force of tomorrow.

Scalable: The training solution must be scalable to provide requisite "stick time" for learners to develop requisite technical skills. For example, the use of computer simulation enables multiple students to practice multiple different scenarios simultaneously whereas, in the past, the use of hot plants as training tools would only allow one student to practice one watch station under the supervision of one instructor at a time. Scalable solutions permit multiple students to practice various scenarios simultaneously under the supervision of a single instructor (or remotely at point of need using an intelligent tutoring system) to greatly expand training access and to dramatically increase "stick time" both in the school house and at the point of need for use with a SOJT solution or Refresher Training. As part of scalability it should be available to the maintenance person or maintenance community for use as a maintenance aid that is both standalone or imbedded within or linked to technical manuals or PMS documentation.

Subject matter expert (SME): A person with extensive knowledge and experience in a subject.

Supportive: Learning is aligned with and directly supports the completion of required Personnel Qualification Standards (PQS) for watch station qualification. The learning should be designed to facilitate and accelerate the existing qualification process by providing the necessary learning 100 series (fundamentals), 200 series (systems), and 300 series (skill demonstration) PQS requirements, thus permitting warriors to qualify faster.

Task analysis: Provides detailed descriptions of the work performed by Sailors and is the basis for the NETC FEA.

Technical Training Equipment (TTE): Investment cost end items of operational equipment, devoted to the training and instruction of naval personnel, for which PMs have the responsibility

for the design, development, modernization, configuration management, or selection for service or special use.

Train the Trainer: The first opportunity to deliver the new or revised training system development solution in the training environment, with the objective to educate the assigned instructors on the proper delivery, sequence, and approach of the new or revised course using embedded technologies. Also serves as an initial redline of the training materials.

Training Device (TD): Hardware and software which have been designed or modified exclusively for training purposes involving, to some degree, simulation or stimulation in its construction or operation, to demonstrate or illustrate a concept or simulate an operational circumstance or environment.

Training effectiveness evaluation plan (TEEP): A process to ensure training being delivered is effectively transferring knowledge/skills to the Sailor. This process must employ the principles of the Kirkpatrick model to ensure proper evaluation of training effectiveness.

Training project plan (TPP): An overarching course management document that is the base planning document for the course development effort that identifies all training requirements including resources, classrooms, and training devices.

Training Requirements Review (TRR): A periodic or triggered review and revalidation of an existing course(s) to ensure that all identified, validated, and recourse training requirements are being met. (See NAVEDTRA 133A Training Requirements Management Manual)

Triggers: A change or event which can lead to a training need identified, such as newly installed systems/equipment, previously identified technical deficiencies, changed in Navy leadership vision for Naval education and learning, and/or safety/performance trends.

Appendix C: List of Deliverables by Phase

Phase I – Triggering Events

- TYCOMs to initiate Phase II Scoping/task analysis processes

Phase II – Requirement Development

Scoping

- Integrated Government Schedule (IGS)
- Stakeholder Point Of Contact (POC) list
- Memorandum for the Record (MFR) (Signed by NETC)
- Validation of legacy training equipment/infrastructure
- Project Scoping Document
- List of Government-Furnished Information (GFI)/Contractor-Furnished Information for the project
- Validated task analysis
- Lesson Plans (LP)

Gate 1 – Scoping

- All requests for action from gate review are closed
- Rating to rating or across path commonalities identified and documented
- The following minimal data is uploaded to the Fleet Forces Command (FFC) Portal: task analysis, data, training course control documents (TCCDs), LPs, Task to Learning Objective Matrix, NETC RRL Scoping Tool, Traceability Matrix, occupational standard (OCCSTD), and lead TYCOM O-6/GS-15 approved MFR

Rating Domain Analysis (RDA)

- Draft RDA workbook

Media and Fidelity Analysis (MFA)

- Media recommendations
- Draft MFA

Functional Requirements Document (FRD) Workshop

- Data collection for the Draft FRD

Gate 2 – Analysis Gate

Rating Domain Analysis (RDA)

- All requests for action from the gate review are closed
- The following minimal data is uploaded to the Manpower, Personal, Training and Education (MPTE) Portal: RDA workbook and lead TYCOM O-6/GS-15 approved MFR

Media and fidelity analysis (MFA)

- Technology reuse across ratings and/or paths vetted and approved
- All requests for action from the gate review are closed
- The following minimal data is uploaded to the MPTE Portal: FRD (w/o feasibility and fielding data) and lead TYCOM O-6/GS-15 approved MFR

Feasibility Analysis & Informational Technology (IT) Infrastructure/Media Acquisition Requirements

- Fielding Feasibility Recommendation(s) including interim (if applicable)

Military characteristics document (MCD)

- MCD

Functional Requirements Document (FRD)

- Draft FRD

Gate 3 –Functional Requirements Document (FRD) (TYCOM Review)

- All requests for action from the gate review are closed
- FRD completed (Feasibility and Fielding data inserted)
- The following minimal data is uploaded to the MPTE Portal: completed FRD and lead TYCOM O-6/GS-15 approved MFR

Program objective memorandum (POM) (if required)

- POM submission (to include issue paper, risks, and capabilities summary)

Executive agent FRD review & approval process

- Approved FRD
- Total Lifecyle Cost Estimate (TLCE) Sheet

Phase III – Course Development, Modernization & Acquisition

Detailed Content Design

- Sequenced learning objectives
- Course master schedule (CMS)

- Instructional Media Design Package (IMDP)
- Training project plan (TPP)

Learning objective development & sequencing

- Sequenced learning objectives

Course master schedule

- CMS

Instructional Media Design Package (IMDP)

- IMDP

Storyboards

- Storyboards

Prototype development

- Prototype

Training project plan (TPP)

- Draft TPP

Gate 4 – Design

- All requests for action from the gate review are closed
- The following minimal data is uploaded to the NETC authorized content repository: Sequenced learning objectives, CMS, Instructional Media Design Package (IMDP), and TPP

Content development prototype

- Course training material

Training materials development

- Course training material

Gate 5 – Prototype

- All requests for action from the gate review are closed
- The following minimal data is uploaded to the FFC Portal: lesson plans, training guide, job sheets, interactive multimedia instruction (IMI) (to include interactive courseware (ICW), computer aided instruction (CAI), PowerPoint (PPT), virtual simulation material (VSIM), etc.), testing materials (to include master test bank, test versions, and testing plan), and TCCD

Content development completion

Content testing

- Government Content Acceptance Testing (GCAT) report
- Shareable Content Object Reference Model (SCORM) content package
- 508 Accessibility Compliance Statement

Content delivery

- Course curriculum documents
- Facility upgrades completed
- Technical training equipment (TTE) received and validated
- Information technology (IT) systems installed

Gate 6 – Pre-Pilot

- All requests for action from the gate review are closed
- The following minimal data is uploaded to the authorized NETC content repository: **c**ourse training material, GCAT report, SCORM content package and 508 Accessibility Compliance Statement

Train the Trainer / pre-pilot testing

- Redlines
- Comment resolution matrix (CRM)

Pre-pilot meeting

- Date and location of convening
- Instructor attendance
- Student attendance
- Travel requirements
- Pilot monitoring
- Concerns
- Completed pilot checklist

Phase IV – Course Fielding

Technology acquisition & installation

- Technology acquisition & installation plan

Pilot (Schoolhouse and Fleet)

- Redlined course materials
- CRM
- Pilot monitoring report
- Pilot time log
- Qualified instructor(s)
- Validated CMS
- Validated training material and media

Student Input/Quota management updates

- Student completion data

First class convene

- Active NETC Course

Development to fleet concentration area (FCA)/operational unit

- Training transfer plan (TTP)

Full modernized delivery implementation

- Letter of Promulgation (LOP)

Phase V – Assessments and Feedback

High Velocity Feedback

- Triggers

Appendix D: Acronyms

Acronym	Definition
ATG	Afloat Training Group
BUMED	Bureau of Medicine and Surgery
CAI	Computer aided instruction
CANTRAC	Catalog of Navy Training Courses
CASREP	Casualty report
CBT	Computer based training
CCA	Curriculum control authority
CeTARS	Corporate enterprise Training Activity Resource System
CFM	Contractor-furnished material
CHaRMS	Content Hosting and Report Management Service
CIN	Course identification number
CMS	Course master schedule
COOL	Credentialing Opportunities On-Line
CPT	Career progression timeline
CRM	Comment Resolution Matrix
CSS	Cloud services stack
DOD	Department of Defense
DPG	Defense planning guidance
ESC	Executive Steering Committee
FCA	Fleet concentration area
FCR	Formal course review
FEA	Front end analysis
FFC	Fleet Forces Command
FRD	Functional Requirements Document
FYDP	Future Years Defense Program
GCAT	Government Content Acceptance Testing
GFI	Government-furnished information
GFM	Government-furnished material
GMT	General military training
HTML	Hypertext markup language
IAW	In accordance with
IB	Integration Board
ICW	Interactive courseware
IETM	Interactive Electronic Technical Manual
IFIT	Instructor-facilitated interactive training
IGS	Integrated government schedule
IMDP	Instructional Multimedia Design Package/Instructional Media Design Package
IMI	Interactive multimedia instruction
INSURV	Inspection and survey
IT	Information technology
IVE	Immersive virtual environment

JDTA	Job Duty Task Analysis
JTA	Job Task Analysis
KSATR	Knowledge, skills, abilities, tools and resources
LaDR	Leadership and development roadmaps
LMS	Learning Management System
LOE	Line of effort
LOP	Letter of Promulgation
MCD	Military characteristics document
MFA	Media and fidelity analysis
MFR	Memorandum for the Record
MILHBK	Military Handbook
MPT	Manpower, personnel, and training
MPTE	Manpower, Personnel, Training and Education
MTRP	Manpower and Training Requirements Planning
NAVEDTRA	Naval Education and Training
NAVMAC	Navy Manpower Analysis Center
NEC	Navy Enlisted Classification
NeL	Navy e-Learning
NEOCS	Navy Enlisted Occupational Classification System
NETC	Naval Education and Training Command
NETCINST	Naval Education and Training Command Instructions
NMETL	Navy Mission Essential Task List
NSA	National Security Agency
NTRP	Navy Tactical Reference Publication
NTSP	Navy training system plan
OCCSTD	Occupational Standard
OFRP	Operational Force Readiness Plan
OJT	On-the-Job Training
OMN	Operation and Maintenance, Navy
OPN	Other procurement, Navy
OPNAV	Chief of Naval Operations
OPNAVINST	Chief of Naval Operations Instructions
OSD	Office of the Secretary of Defense
PADDIE+M	Planning, Analysis, Design, Development, Implementation, Evaluation, and Life-Cycle Maintenance
PBIS	Program Budget Information System
PERS	Navy Personnel Command
PII	Personally Identifiable Information
POC	Point of contact
POE	Projected operational environment
POM	Program objective memorandum
PPBE	Planning, programming, budgeting, and execution
PPT	PowerPoint
PQS	Personnel qualification standards
PRR	Program requirements review

RDA	Rating domain analysis
RDTE	Research, development, test and evaluation
ROC	Required operational capabilities
RRL	Ready Relevant Learning
S2025	Sailor 2025
SCD	Ship change document
SCN	Shipbuilding and conversion, Navy
SCORM	Shareable Content Object Reference Model
SDIT	Self-directed interactive training
SFTC	Submarine Force Training Committee
SME	Subject matter experts
SOJT	Structured on-the-job training
SOP	Standard operating procedure
SPG	Service program guidance
SYSCOM	Systems Command
TCCD	Training Course Control Document
TEEP	Training Effectiveness Evaluation Plan
TG	Training guide
TITA	Training Installation and Transfer Agreement
TPP	Training project plan
TRR	Training requirements review
TSA	Training Support Agents
TSPO	Training Support Program Office
TSRA	Training systems requirements analysis
TTA	Training task analysis
TTE	Technical training equipment
TTP	Training transfer plan
TYCOM	Type Commander
USFF	United States Fleet Forces Command
VSIM	Virtual simulation
xAPI	Experience application programming interface

Appendix E: Ready Relevant Learning Integration Board and Ready Relevant Learning Executive Steering Committee Charter

RRL_Int_Board_RRL_ESC_Charter.pdf

The file for the Ready Relevant Learning Integration Board and Ready Relevant Learning Steering Committee Charter can be found on the MPTE portal at the following link: https://mpte.navy.deps.mil/sites/Projects/rrl_projectoffice/ProjectDocuments/RRL%20Charter%2018%20Jan%2019_VCNO%20SIGNED.pdf

Appendix F: Ready Relevant Learning Process Gate Review Checklist

This appendix provides reference slides and checklists for use when preparing for and conducting the gate reviews identified within the Ready Relevant Learning (RRL) Development process. The following Gates have associated slides and checklists:

Gate 1 – Scoping
- Gate 1 Slide
- Gate 1 Checklist

Gate 2 – Analysis (Rating Domain Analysis (RDA), media and fidelity Analysis (MFA) and Functional Requirements Document (FRD) supporting data workbook)
- Gate 2 Slide
- Gate 2 Checklist

Gate 3 - FRD
- Gate 3 Slide
- Gate 3 Checklist

Gate 4 –Design
- Gate 4 Slide
- Gate 4 Checklist

Gate 5 – Prototype Gate
- Gate 5 Slide
- Gate 5 Checklist

Gate 6 – Pre-Pilot
- Gate 6 Slide
- Gate 6 Checklist

Gate 1 – Scoping

Gate Coordinator	Naval Education and Training Command (NETC)/Learning Center	
Approval Authority	Lead TYCOM O-6/GS-15	
Focus of Review	Per Rating	
Purpose	**Criteria**	**Participants**
Provide O-6/GS-15 Level Review and Approval of Rating Scoping Artifacts • Paths to modernize • Courses within paths • Course versions/revisions • Current version of Occupational Standards • Job Task Analysis (JTA)/ Job Duty Task Analysis (JDTA) data • JTA/JDTA and Learning Objective crosswalk • Learning Objective traceability matrices • Pending Training Requirements Review (TRR) action • Identify commonalities with other ratings or across training paths that have implications for reuse	**Key Events** • Establish scope • Verify team membership **Entrance Criteria** • JTA/JDTA verified to be accurate, current and relevant by TYCOM • Modified Formal Course Review complete; planned course revisions/TRR action(s) identified with recommended way ahead • Current course versions validated and aligned to JTA/JDTA • Courses and training paths within scope (in accordance with RRL business rules) • Commonality matrix secured and commonalities identified **Exit Criteria** • All request for action from gate review are closed • Rating to rating or across path commonalities identified and documented • Draft Total Ownership Cost Sheet • The following minimal data is uploaded to the MPTE Portal: - JTA data - Training Course Control Documents (TCCDs) - Lesson Plan - Training Guides (Job Sheets and Performance Sheets) - Task to Learning Objective matrix - Traceability matrix - Occupational Standards - Lead TYCOM O-6/GS-15 approved Gate MFR	• USFF • TYCOM • NETC/Learning Center • OPNAV N1, High-9s and N2N6 • SYSCOM/TSPO • NAVMAC • Enlisted Community Manager

Gate 1 – Scoping Checklist

Gate 1 Coordinator: NETC/Learning Center

Approval Authority: Lead TYCOM O-6/GS-15

Focus of Review: Per rating.

Purpose of Gate 1 is to provide O-6/GS-15 level review and approval of rating scoping artifacts:

- Paths to modernize
- Courses within paths
- Course versions/revisions
- Current version of occupational standards
- Job Task Analysis (JTA)/Job Duty Task Analysis (JDTA) data
- JTA/JDTA and learning objective crosswalk
- Learning objective traceability matrices
- Pending Training Requirements Record (TRR) action
- Identify commonalities with other ratings or across training paths that have implications for reuse

Key Events:

- Establish scope
- Verify team membership

Gate 1 - Entrance Criteria:

- JTA/JDTA completed and verified to be accurate, current and relevant by the Type Commander (TYCOM)
- Modified Formal Course Review complete; planned course revisions/TRR action(s) identified with recommended way ahead
- Current course versions validated and aligned to the JTA/JDTA
- Courses and training paths within scope (in accordance with RRL business rules)
- Commonality matrix secured and commonalities identified

Gate 1 - Exit Criteria:

- All requests for action from the gate review are closed
- Rating to rating or across path commonalities are identified and documented
- Draft Total Lifecycle Cost Estimate
- The following minimal data is uploaded to the MPTE Portal:
    - JTA data
    - Training Course Control Documents (TCCD)s
    - Lesson Plans (LP)
    - Training Guides (Job Sheet and Performance Sheets)
    - Task to learning objective matrix
    - Traceability Matrix
    - OCCSTDs
    - Lead TYCOM O-6/GS-15 approved gate Memorandum for the Record (MFR)

Gate 2 – Analysis: Part 1 – Rating Domain Analysis (RDA)

<table>
<tr><td>Gate Coordinator</td><td colspan="3">SYSCOM/TSPO</td></tr>
<tr><td>Approval Authority</td><td colspan="3">Lead TYCOM O-6/GS-15</td></tr>
<tr><td>Focus of Review</td><td colspan="3">Per Training Path</td></tr>
<tr><td>Purpose</td><td colspan="2">Criteria</td><td>Participants</td></tr>
<tr><td rowspan="2">Provide O-6/GS-15 Level Review and Approval of RDA Artifacts
• Career Progression Timeline
• Learning objective/task mapping and timing
• Over-trained learning objectives/task
• Potentially gapped work elements – authorizes JTA/JDTA and Training Task Analysis (TTA) to commence</td><td colspan="2">Key Events
• RDA Data Collection Workshop
• RDA Workbook working level review and approval

Entrance Criteria
• Business rules applied to ideal timing recommendation
• Working level review of artifacts and adjudication complete
• Artifacts updated to reflect review comments

Exit Criteria
• All request for action from gate review are closed
• Functional Requirement Document (FRD) Supporting Data Workbook with recommended timing of training delivery
• The following minimal data is uploaded to the MPTE Portal:</td><td rowspan="2">• USFF
• TYCOM
• NETC/Learning Center
• OPNAV N1, High-9s and N2N6
• SYSCOM/TSPO
• NAVMAC
• Enlisted Community Manager</td></tr>
<tr><td>- RDA Workbook</td><td>- Lead TYCOM O-6/GS-15 approved gate MFR</td></tr>
</table>

Gate 2 – Analysis: Part 2 – Media/Fidelity (MFA)

Gate Coordinator	SYSCOM/TSPO	
Approval Authority	Lead TYCOM O-6/GS-15	
Focus of Review	Per Training Path	
Purpose	**Criteria**	**Participants**
Provide O-6/GS-15 Level Review and Approval of MFA Artifacts • Ideal media characteristics per learning objective/task • Training equipment needs (additional/modified) • Strategy requirements • Narrative summarizing analysis findings and modernization recommendations • **Initiates Military Characteristics Document (MCD) for Virtual Simulation (VSIM) with and without hardware and allows for Program Objective Memorandum (POM) estimation**	**Key Events** • MFA Data Collection Workshop • Review and approve strategy recommendations • Review approve media characteristics per learning objective/task • Review and approve narrative description of rating modernization **Entrance Criteria** • Working level review of artifacts and adjudication complete • Artifacts updated to reflect review comments **Exit Criteria** • Technology reuse across ratings and/or paths vetted and approved • FRD Supporting Data Workbook with recommended media and equipment • All request for action from gate review are closed • The following minimal data is uploaded to the MPTE Portal: - FRD (w/o Feasibility and Fielding data) - Lead TYCOM O-6/GS-15 approved gate MFR	• USFF • TYCOM • NETC/Learning Center • OPNAV N1, High-9s and N2N6 • SYSCOM/TSPO • NAVMAC • Enlisted Community Manager

Gate 2 – Analysis Checklist

Gate 2 Coordinator: SYSCOM/TSPO

Approval Authority: Lead TYCOM O-6/GS-15

Focus of Review: Per training path.

Part 1 - RDA

- **Purpose of Gate 2 is to provide O-6/GS-15 level review and approval of RDA artifacts:**
    - Career progression timeline
    - Learning objective/task mapping and timing
    - Over-trained learning objectives/tasks
    - Potentially gapped work elements
        - Authorizes JTA/JDTA and Training Task Analysis to commence
- **Key Events:**
    - RDA data collection workshop
    - RDA Workbook working level review and approval
- **Gate 2 RDA Entrance Criteria:**
    - Business rules applied to ideal timing recommendation
    - Working level review of artifacts and adjudication complete
    - Artifacts updated to reflect review comments
- **Gate 2 RDA Exit Criteria:**
    - All requests for action from gate review are closed
    - FRD supporting data workbook with recommended timing of training delivery
    - The following minimal data is uploaded to the MPTE Portal:
        - RDA workbook
        - Lead TYCOM O-6/GS-15 approved gate MFR

Part 2 - MFA:

- **Purpose of Gate 2 is to provide O-6/GS-15 level review and approval of MFA artifacts:**
    - Ideal media characteristics per learning objective/task
    - Training equipment needs (additional/modified)
    - Strategy requirements
    - Narrative summarizing analysis findings and modernization recommendations
    - Initiates military characteristics document (MCD) for virtual simulation (VSIM) with and without hardware and allows for POM submission
- **Key Events:**
    - MFA data collection workshop
    - Review and approve strategy recommendations
    - Review and approve media characteristics per learning objective/task
    - Review and approve narrative description of rating modernization

- **Gate 2 Entrance Criteria:**
    - Working level review of artifacts and adjudications complete
    - Artifacts updated to reflect review comments
- **Gate 2 Exit Criteria:**
    - Technology reuse across ratings and/or paths vetted and approved
    - FRD supporting data workbook with recommended media and equipment
    - All requests for action from the gate review are closed
    - The following minimal data is uploaded to the MPTE Portal:
        - FRD (without feasibility and fielding data)
        - Lead TYCOM O-6/GS-15 approved gate MFR

Gate 3 - Functional Requirements Document (FRD)

Gate Coordinator	TSPO or FRD developing activity		
Approval Authority	Lead TYCOM O-6/GS-15		
Focus of Review	Per Training Path		
Purpose	**Criteria**		**Participants**
Provide O-6/GS-15 Level Review and Approval of Feasibility/Fielding Artifacts • Needed instructor resources • Needed information technology upgrades • Needed infrastructure upgrades • Planned fielding phases • Quantities of trainers and training equipment needed	**Key Events** • Feasibility Workshop **Entrance Criteria** • Analysis gate complete • Feasibility data is consolidated into FRD **Exit Criteria** • All request for action from gate review are closed • FRD completed (Feasibility and Fielding data inserted) • Final Total Ownership Cost Sheet • The following minimal data is uploaded to the MPTE Portal:		• USFF • TYCOM • NETC/Learning Center • OPNAV N1, High-9s and N2N6 • SYSCOM/TSPO • NAVMAC • Enlisted Community Manager
	- Completed FRD	- Lead TYCOM O-6/GS-15 approved gate MFR	

Gate 3 – Functional Requirement Document (FRD) Checklist

Gate 3 Coordinator: Training System Program Offices (TSPO) or FRD developing activity

Approval Authority: Lead TYCOM O-6/GS-15

Focus of Review: Per training path.

Purpose of Gate 3 is to provide O-6/GS-15 level review and approval of feasibility and fielding artifacts:

- Needed instructor resources
- Needed information technology upgrades
- Needed infrastructure upgrades
- Planned fielding phases
- Quantities of trainers and training equipment needed

Key Events:

- Feasibility workshop

Gate 3 Entrance Criteria:

- Analysis gate complete
- Feasibility data is consolidated into FRD

Gate 3 Exit Criteria:

- All requests for action from gate review are closed
- FRD completed (feasibility and fielding data inserted)
- Final Total Lifecycle Cost Estimate (TLCE) Sheet
- The following minimal data uploaded to the MPTE Portal:
    - Completed FRD
    - Lead TYCOM O-6/GS-15 approved gate MFR

Gate 4 – Design

<table>
<tr><td>Gate Coordinator</td><td colspan="4">SYSCOM/TSPO</td></tr>
<tr><td>Approval Authority</td><td colspan="4">NETC/Learning Center</td></tr>
<tr><td>Focus of Review</td><td colspan="4">Per Rating</td></tr>
<tr><td>Purpose</td><td colspan="3">Criteria</td><td>Participants</td></tr>
<tr><td rowspan="2">Provide O-6/GS-15 Level Review and Approval of Content Design Artifacts
• Sequenced learning objectives
• Course Master Schedule
• Instructional Multimedia Design Package (IMDP)
• Training Project Plan (TPP)</td><td colspan="3">Key Events
• Ensure the completion and adjudication of all required design materials prior to proceeding to content development
Entrance Criteria
• Learning objectives sequenced and reviewed by Stakeholders
• Course Master Schedule (CMS) complete and reviewed by Stakeholders
• IMDP complete and reviewed by Stakeholders
• TPP complete and reviewed by Stakeholders
Exit Criteria
• All request for action from gate review are closed
• The following minimal data is uploaded to the authorized NETC content repository</td><td rowspan="2">• USFF
• TYCOM
• NETC/Learning Center
• SYSCOM/TSPO</td></tr>
<tr><td>- Sequenced learning objectives</td><td>- CMS
- IMDP</td><td>- TPP</td></tr>
</table>

Gate 4 – Design

Gate 4 Review Coordinator: System Command (SYSCOM)/TSPO

Approval Authority: NETC/Learning Center

Focus of Review: Per rating.

Purpose of the Gate 4 is to provide O-6/GS-15 level review and approval of content design artifacts:

- Sequenced learning objectives
- Course master schedule (CMS)
- Instructional Media Design Package (IMDP)
- Training project plan (TPP)

Gate 4 Entrance Criteria:

- Learning objectives sequenced and reviewed by stakeholders
- CMS complete and reviewed by stakeholders
- IMDP complete and reviewed by stakeholders
- TPP complete and reviewed by stakeholders

Gate 4 Exit Criteria:

- All requests for action from gate review are closed
- The following minimal data uploaded to the authorized NETC content repository:
    - Sequenced learning objectives
    - CMS
    - IMDP
    - TPP

Gate 5 – Prototype

Gate Coordinator	SYSCOM/TSPO			
Approval Authority	NETC/Learning Center			
Focus of Review	Per Rating			
Purpose	**Criteria**			**Participants**
Provide O-6/GS-15 Level Review and Approval of Prototype Module Artifacts • Lesson Plan • Trainee Guide • Job Sheets • Interactive Multimedia Instruction (IMI) – to include Interactive Courseware (ICW), Computer Aided Instruction (CAI), PowerPoint (PPT), Virtual Simulation (VSIM), etc. • Testing Material – to include master test bank, test versions, and testing plan • Training Course Control Document (TCCD)	**Key Events** • Ensure the completion and adjudication of all required design materials prior to proceeding to Train the Trainer and Course Pilot **Entrance Criteria** • Adjudicated Lesson Plans complete and reviewed by Stakeholders • Adjudicated Trainee Guides complete and reviewed by Stakeholders • Adjudicated Job Sheets complete and reviewed by Stakeholders • Adjudicated IMI complete and reviewed by Stakeholders • Adjudicated Testing Material complete and reviewed by Stakeholders • Training Course Control Document complete and reviewed by Stakeholders **Exit Criteria** • All request for action from gate review are closed • The following minimal data is uploaded to the authorized NETC content repository:			• USFF • TYCOM • NETC/Learning Center • SYSCOM/TSPO
	- Lesson Plan - Trainee Guide - Job Sheets	- IMI – to include ICW, CAI, PPT, VSIM, etc	- Testing Material – to include master test bank, test versions, and testing plan - TCCD	

Gate 5 – Prototype Checklist

Gate 5 Review Coordinator: SYSCOM/TSPO

Approval Authority: NETC/Learning Center

Focus of Review: Per rating.

Purpose of Gate 5 is to provide O-6/GS-15 level review and approval of prototype artifacts:

- Lesson Plan (LP)
- Training Guide (TG)
- Job sheets
- Interactive multimedia instruction (IMI) – to include interactive courseware (ICW), computer aided instruction (CAI), PowerPoint (PPT), VSIM, etc.
- Testing Material – to include master test bank, test versions, and testing plan
- Training Course Control Document (TCCD)

Key Events:

- Ensure the completion and adjudication of all required design materials prior to proceeding to Train the Trainer and Course Pilot

Gate 5 Entrance Criteria:

- Adjudicated lesson plans complete and reviewed by stakeholders
- Adjudicated training guides complete and reviewed by stakeholders
- Adjudicated job sheets complete and reviewed by stakeholders
- Adjudicated IMI complete and reviewed by stakeholders
- Adjudicated testing material complete and reviewed by stakeholders
- TCCD complete and reviewed by stakeholders

Gate 5 Exit Criteria:

- All requests for action from the gate review are closed
- The following minimal data is uploaded to the authorized NETC content repository:
    - LP
    - TG
    - Job sheets
    - IMI – to include ICW, CAI, PPT, VSIM, etc.
    - Testing materials – to include master test bank, test versions, and testing plan
    - TCCD

Gate 6 – Pre-Pilot

Gate Coordinator	SYSCOM/TSPO	
Approval Authority	NETC/Learning Center	
Focus of Review	Per Rating	
Purpose	**Criteria**	**Participants**
Provide O-6/GS-15 Level Review and Approval of the curriculum content package artifacts • Course Training Material • Facility Upgrades complete • Technical Training Equipment (TTE) received • Information Technology (IT) systems installed	**Key Events** • Ensure the completion and adjudication of the curriculum content package prior to proceeding to Train the Trainer and Course Pilot **Entrance Criteria** • All Course Training Material complete and reviewed by Stakeholders • Facility upgrade complete (as applicable) • TTE received and installed at training site • IT Systems installed at training site **Exit Criteria** • All request for action from gate review are closed • The following minimal data is uploaded to the authorized NETC content repository: - Course Training Material - Government Content Acceptance Testing (GCAT) Report - SCORM Content Package - 508 Accessibility Compliance Statement	• USFF • TYCOM • NETC/Learning Center • SYSCOM/TSPO

Gate 6 – Pre-Pilot Checklist

Gate 6 - Review Coordinator: SYSCOM/TSPO

Approval Authority: NETC/Learning Center

Focus of Review: Per rating.

The purpose of the Gate 6 is to provide O-6/GS-15 level review and approval of the curriculum content package:

- Course training material
- Facility upgrade complete
- Technical training equipment (TTE) received
- Information technology (IT) systems installed

Key Events:

- Ensure the completion and adjudication of the curriculum content package prior to proceeding to Train the Trainer and Course Pilot

Gate 6 - Entrance Criteria:

- All course training material complete and reviewed by stakeholders
- Facility upgrade complete (as applicable)
- Technical training equipment (TTE) received and installed by stakeholders
- IT systems installed at training sites

Gate 6 - Exit Criteria:

- All requests for action from the gate review are closed
- The following minimal data is uploaded to the authorized NETC content repository:
    - Course training material
    - Government Content Acceptance Testing (GCAT) report
    - Shareable Content Object Reference Model (SCORM) content package
    - 508 Accessibility Compliance Statement

Appendix G: Total Lifecycle Cost Estimate Sheet

Total Lifecycle Cost Estimate

The file for the Total Lifecylce Cost Estimate Sheet can be found on the MPTE portal at the following link: https://mpte.navy.deps.mil/sites/Projects/rrl_projectoffice/ProjectDocuments/RRL%20FRD%20TLCE.xlsx

Total Lifecycle Cost Estimate Workbook Tab 1

COURSE/MODULE NAME - Total Lifecycle Cost Estimate (TLCE)						
	Acquisition Cost	Sustainment				
FRD / Requirement Development/Update		FY20	FY21	FY22	FY23	
JDTA Development/Validation	$ -	$ -		$ -	$ -	
Scoping Through Functional Requirements Development (FRD)	$ -	$ -	$ -	$ -	$ -	
FRD Update	$ -	$ -	$ -	$ -	$ -	
	Acquisition Cost	Sustainment				
LIFECYCLE TRAINING DEVELOPMENT/SUSTAINMENT		FY20	FY21	FY22	FY23	
Curriculum Development (see below)/Sustainment	$ -	$ -	$ -	$ -	$ -	
Technical Training Equipment (TTE) Procurement/Installation/Sustainment	$ -	$ -	$ -	$ -	$ -	
Training Device (TD) Procurement/Installation/Sustainment	$ -	$ -	$ -	$ -	$ -	
Training Unique Equipment (TUE) Procurement/Installation/Sustainment	$ -	$ -	$ -	$ -	$ -	
Digital Development (ICW/CBT/VTT/SIM) Development (See below)/Sustainment	$ -	$ -	$ -	$ -	$ -	
JQR/PQS Development/Sustainment	$ -	$ -	$ -	$ -	$ -	
Information Assurance Accreditation	$ -	$ -	$ -	$ -	$ -	
TSIP	$ -	$ -	$ -	$ -	$ -	
Facility Modifications	$ -	$ -	$ -	$ -	$ -	
Electronic Classroom Installation/Modernization/Sustainment/Maintenance	$ -	$ -	$ -	$ -	$ -	
CINC/NAVFAC Special Requirements	$ -	$ -	$ -	$ -	$ -	
		Sustainment				
	Acquisition Total	FY20	FY21	FY22	FY23	FYDP Total
	$ -	$ -	$ -	$ -	$ -	$ -

Total Lifecycle Cost Estimate Workbook Tab 2

TLCE WORKSHEET							
FRD Development/Update	Acquisition RS	Acquisition Cost	Funding Type	Sustainment FY20	FY21	FY22	FY23
JDTA Development/Validation		$ -		$ -	$ -	$ -	$ -
Scoping Through Functional Requirements Development (FRD) (total of next four items below)		$ -		$ -	$ -	$ -	$ -
Rating Domain Analysis		$ -		$ -	$ -	$ -	$ -
Media Fidelity Analysis		$ -		$ -	$ -	$ -	$ -
Military Characteristics Document		$ -		$ -	$ -	$ -	$ -
FRD		$ -		$ -	$ -	$ -	$ -
FRD Update		$ -		$ -	$ -	$ -	$ -
LIFECYCLE TRAINING DEVELOPMENT/SUSTAINMENT	Acquisition RS	Acquisition Cost	Funding Type	Sustainment FY20	FY21	FY22	FY23
Curriculum Development/Sustainment (Total of all related CINs or Segments)		$ -		$ -	$ -	$ -	$ -
CIN/SEGMENT		$ -		$ -	$ -	$ -	$ -
CIN/SEGMENT		$ -		$ -	$ -	$ -	$ -
CIN/SEGMENT		$ -		$ -	$ -	$ -	$ -
CIN/SEGMENT		$ -		$ -	$ -	$ -	$ -
Technical Training Equipment (TTE) Procurement/Installation/Sustainment (Total of all pieces of TTE)		$ -		$ -	$ -	$ -	$ -
TTE Item Procurment/Installation/Sustainment		$ -		$ -	$ -	$ -	$ -
TTE Item Procurment/Installation/Sustainment		$ -		$ -	$ -	$ -	$ -
TTE Item Procurment/Installation/Sustainment		$ -		$ -	$ -	$ -	$ -
TTE Item Procurment/Installation/Sustainment		$ -		$ -	$ -	$ -	$ -
Training Device (TD) Procurement/Installation/Sustainment (Total of all pieces of TD)		$ -		$ -	$ -	$ -	$ -
TD Item Procurment/Installation/Sustainment		$ -		$ -	$ -	$ -	$ -
TD Item Procurment/Installation/Sustainment		$ -		$ -	$ -	$ -	$ -
TD Item Procurment/Installation/Sustainment		$ -		$ -	$ -	$ -	$ -
TD Item Procurment/Installation/Sustainment		$ -		$ -	$ -	$ -	$ -
Training Unique Equipment (TUE) Procurement/Installation/Sustainment (Total of all pieces of TUE)		$ -		$ -	$ -	$ -	$ -
TUE Item Procurment/Installation/Sustainment		$ -		$ -	$ -	$ -	$ -
TUE Item Procurment/Installation/Sustainment		$ -		$ -	$ -	$ -	$ -
TUE Item Procurment/Installation/Sustainment		$ -		$ -	$ -	$ -	$ -
TUE Item Procurment/Installation/Sustainment		$ -		$ -	$ -	$ -	$ -
Digital Development (ICW/CBT/VTT/S/M) Development/Sustainment (Total of all Digital Media and Simulators)		$ -		$ -	$ -	$ -	$ -
VTT1		$ -		$ -	$ -	$ -	$ -
VTT2		$ -		$ -	$ -	$ -	$ -
SIM		$ -		$ -	$ -	$ -	$ -
SIM		$ -		$ -	$ -	$ -	$ -
ICW/CBT		$ -		$ -	$ -	$ -	$ -
JQR/PQS Development (See below)/Sustainment (Total of all related PQS Books and JQRs)		$ -		$ -	$ -	$ -	$ -
PQS Book		$ -		$ -	$ -	$ -	$ -
PQS Book		$ -		$ -	$ -	$ -	$ -
PQS Book		$ -		$ -	$ -	$ -	$ -
JQR		$ -		$ -	$ -	$ -	$ -
Information Assurance Accreditation		$ -		$ -	$ -	$ -	$ -
TSIP		$ -		$ -	$ -	$ -	$ -
Facility Modifications (Total of all classrooms and labs)		$ -		$ -	$ -	$ -	$ -
Classroom 1		$ -		$ -	$ -	$ -	$ -
Classroom 2		$ -		$ -	$ -	$ -	$ -
Lab 1		$ -		$ -	$ -	$ -	$ -
Electronic Classroom Installation/Modernization/Sustainment/Maintenance (Total of all ECRs used for the course)		$ -		$ -	$ -	$ -	$ -
ECR 1		$ -		$ -	$ -	$ -	$ -
ECR2		$ -		$ -	$ -	$ -	$ -
ECR3		$ -		$ -	$ -	$ -	$ -
CIMC/NAVFAC Special Requirements		$ -		$ -	$ -	$ -	$ -

Acquisition Total by Funding Type		FY20	FY21	FY22	FY23	FYDP Total (Normally OMN)
$ -	OMN	$ -	$ -	$ -	$ -	$ -
$ -	OPN	$ -	$ -	$ -	$ -	$ -
$ -	SCN	$ -	$ -	$ -	$ -	$ -
$ -	RDT&E	$ -	$ -	$ -	$ -	$ -

Appendix H: RRL Rating Responsibility by Organization

This appendix provides the rating stakeholders and leads for coordination of multiple reviews and adjudication throughout the process.

Resource Sponsor	Learning Center		Ratings Assigned
N1	CSS		CS, LS, MC, MU, NC(C), NC(R), PS, YN
	N093	NMTSC	HM, HM-DARS
	N097	NCSC	RP
	N09J	NJS	LN
N2 / N6	CIWT		CTI, CTM, CTN, CTR, CTT, ET, ET (S), IS, IT
N95	CSFE		BU, CE, CM, CN, EA, EO, SW, UT
	CSF		MA
	CEODDIVE		EOD, ND
	SEAL/SWCC		SB, SO
N96	CSCS		BM, ET, FC, FCA, GM, IC, MN, OS, S-PACT, STG
	SWSC		DC, EM, EN, E-PACT, GSE, GSM, HT, MM, MR, QM
N97	SLC, CNT		CSS, ETV, FT, LSS, MMA, MT, STS, TM, YNS, ITS, all nuclear ratings
N98	CNATT		ABE, ABF, ABH, AC, AD, AE, AG, AM, AME, AN, AO, A-PACT, AS, ATI, ATO, ATT, AWF, AWO, AWR, AWS, AWV, AZ, PR

Ratings not included in RRL:
SO, HM, LN, CTI, NC
ALL NUCLEAR (ETN EMN, MMN, Surface and Sub)

Primary Reviewer(s) */**	Secondary Reviewer	Ratings Assigned
CHINFO/USFF N01P	SURFOR/AIRFOR/ NECC/IFOR/RESFOR	MC[2,3,5,6,7]
N097 (CHIEF OF CHAPLAINS)	SURFOR/AIRFOR/ NECC/IFOR/RESFOR	RP[2,3,5,6,7]
PERS-2	SURFOR/AIRFOR/ NECC/IFOR/RESFOR	PS[2,3,5,6,7]
USFF N1SF/ U.S. NAVY BAND (MU)	SURFOR/AIRFOR/ NECC /IFOR/RESFOR	MA[2,3,5,6,7], MU
SURFOR	AIRFOR/SUBFOR/ NECC/IFOR/RESFOR	BM[3,5], DC[5], EM[5], EN[3,5,6,7], E-PACT[3,7], ET[3,5], FC[3,7], FC(A)[7], GM[5], GSE[7], GSM[7], HT[3,7], IC[1], MM (CONV)[7], MN[5,7], MR[3,4,5,7], OS[3,5,6,7], QM[3,5,7], S-PACT[3,5,7], STG[3,7], YN[3,5,6,7]
AIRFOR	SURFOR/NECC/ RESFOR	ABE[2,7], ABF[2,7], ABH[2,7], AC[2,7], AD[2,7], AE[2,7], AM[2,7], AME[2,7], AN, AO[2,7], A-PACT, AS[7], ATI[2,7], ATO[2], ATT, AWF[2], AWO[2], AWR[2], AWS[2], AWV[2], AZ[2], PR[2,7]
SUBFOR	IFOR/RESFOR	CSS[7], ETV[6,7], FT, ITS[6], LSS, MMA[7], MT[7], TM[7], STS[7], YNS[7]
NAVSUP	SURFOR/AIRFOR/ SUBFOR/NECC/IFOR/RES FOR	CS[2,3,4,5,6,7], LS[2,3,4,5,6,7], RS[2,3,4,5,6,7]
NECC	RESFOR	BU[7], CE[7], CM[7], CN[7], EA[7], EO[7],EOD[7], ND[7], SW[7], UT[7]
IFOR	SURFOR/AIRFOR/NECC/ RESFOR/CNIMOC	AG[CNIMOC], CTM[2,3,5,7], CTN[2,3,5,7], CTR[2,3,5,7], CTT[2,3,5,7], IS[2,3,5,7], IT[2,3,5,7]
NSWC		SB, SO

* Primary Reviewer will coordinate and consolidate Secondary Reviewer comments for submission

** Notes: 1-USFF; 2-SURFOR; 3-AIRFOR; 4-SUBFOR; 5-NECC; 6-IFOR; 7-RESFOR; 8-CHINFO; 9-N097(Chief of Chaplains); 10-PERS-2; 11-NAVSUP; 12-NSWC

Appendix I: RRL Business Rules

This appendix provides the RRL ESC approved business rules.

Approved			
BR#	**Short Title**	**Business Rule (BR)**	**Rationale/Comment**
BR001	Sundowning	Courses sundowning within three (3) calendar years will be excluded from RRL Modernization. Courses planned for sundowning within 3-5 years will be evaluated on a case-by-case basis and require Learning Center, NETC and TYCOM concurrence to be excluded from RRL Modernization.	It takes roughly 2-3 years to develop Modernized content. There is some risk in exlcuding courses in the 3-5 year window, because sometimes the reason for sundowning a course may not materialize (i.e. funding for replacement system is cut).
BR002	Low Throughput	Courses with low throughput (less than 25 students per year) will be evaluated on a case-by-case basis and require Learning Center, NETC and TYCOM concurrence to be excluded from RRL Modernization.	These are typically courses that will sundown within 5 years, but also may be courses that are not essential to readiness or that are outdated.
BR003	Non-NETC Owned Courses	Courses that are not under NETC ownership will not be evaluated for RRL Modernization UNLESS the proper coordination has occurred with the course owner (BUMED, Other Service, etc.) and the RRL ESC has reviewed and approved the rating for inclusion in the modernization effort.	Examples of this include CTR and CTT ratings which trace back to NSA. Additionally, this rule would apply to courses still under acquisition program Development such as F-35. Once transitioned to NETC these courses would be elegible for evaluation.
BR004	Non-Accession Courses	Courses outside a Rating's accession training pipeline will not be included in RRL Modernization until such a time that the RRL program begins formal evaluation of Journeyman, and Master Learning Continuums with Professional training.	C Schools in the accession pipeline would be evaluated, however those that are currently 'F' and 'C' schools designed for Fleet returnee's will not be evaluated during the RRL Accession Level Modernization unless specifically tasked.

Approved			
BR#	**Short Title**	**Business Rule (BR)**	**Rationale/Comment**
BR005	Course Revisions	The training community (NETC/TYCOM/Resourse Sponsor) will not initiate course revisions after the start of RRL Rating Analysis efforts without coordination and approval by the ESC.	Multiple course revisions running concurrently cause confusion and duplication of efforts wasting valuable time and funding. Emergent or safety changes will be evaluated for incorporation as required with impacts briefed to the ESC.
BR006	Workshop Coordination	Developing activity will provide a Rating workshop schedule 3 months in advance, or within 2 weeks of funding analysis work. Workshop schedule will identify key support needed for personnel and logistics. Scheduling/coordination will begin 6 weeks prior to the scheduled event. Participants /logistics will be finalized 3 weeks prior to the event. If event is not locked in by 15 days prior to event occurrence, Senior Leadership will be informed to engage. If attendees are not finalized by 10 days prior scheduled start date, the event may be rescheduled at USFF direction.	Process to ensure appropriate location, TYCOM and Learning Center participation is in place to support analysis.
BR007	Modern Delivery	Heel to Toe (H2T) Modern Delivery Requirementss. Incorporate the following to match DGM "The following exceptional situations/categories require the delivery of heel to toe (H2T) training (prior to arrival at first assignment): (1) Other Service students; (2) Foreign National students; (3) Sailors ordered to Forward Deployed Naval Forces (FDNF); (4) Sailors ordered to Train to Qualify/Train to Certify (TTQ/TTC) platforms; (5) Sailors ordered to Minimally Manned Platforms (MMP); and (6) Sailors ordered to other service expeditionary forces. (Note: Once validated by the appropriate TYCOM that modernized training exists and can be provided at the platform, FDNF, TTQ/TTC, and MMP platforms may be exempted from this BR with RRL ESC review and approval.)	This business rule accounts for limited shore-side footprint for providing Block 1+ training.

Approved			
BR#	**Short Title**	**Business Rule (BR)**	**Rationale/Comment**
BR008	Modernized Delivery during first assignment	When aligning training to time of performance during a Sailor's first assignment, any training (IFIT, SDIT) recommended for delivery during the first 12 months of the first assignment shall be realigned back to modernized delivery Block 0.	This business rule accounts for the diverse onboarding and qualification requirements of junior Sailors during the first 12 months of their initial assignment (e.g. temporary food service assignments, I-division, Basic DC, etc.) and provides the required rating specific training prior to the point of need during initial accession training (i.e. A-school or accession C-school)
BR009	Modernized Delivery Timing (Fielding)	When aligning implementation of training via IFIT during a Sailor's sea tour, a minimum of 12 months should be planned between training requirements.	This business rule ensures training is close to time of need without undue burden to the Sailor and platform affecting OFRP and readiness
BR010	Modernized Delivery Timing (Execution)	When scheduling IFIT training during a Sailor's sea tour, it may be completed up to 9 months prior to the planned date, or no later than 3 months after the planned date.	This business rule provides flexibility in scheduling training to ensure the Sailor receives it prior to time of need while also allowing OFRP demands to be met. Assumes ISD's have included a 3 month buffer in optimum timing

BR#	Short Title	Business Rule (BR)	Rationale/Comment
BR011	TYCOM Manpower	Beginning in POM23, any needed increases in TYCOM manpower wil be funded by TYCOM's Resource Sponsor	This business rule defines resource responsibilities
BR012	Learning Center Instructors	Learning Center (LC) Instructors (MIL/CIV/CTR) are funded by LC's Resource Sponsor (RS)	Program requirement and TOA for LC Instructors has been responsibility of respective RS since FY13
BR013	Learning Center Equipment	A) Acquisition of rating specific equipment is the responsibility of the LC Resource Sponsor (OPNAVINST 1500.76C applies)	"Rating specific" – Required to meet occupational standards and tasks tied to a specific rating/set of ratings (e.g., Part-task trainers, SQQ-89)
		B) Initial acquisition of non-rating specific equipment is the responsibility of RRL until otherwise noted	"Non-rating specific" – Generally configurable to multiple ratings (e.g., MRTS, ECR, IT hardware, facility enhancements, oil lab)
		C) Sustainment of both rating specific and non-rating specific equipment is the responsibility of the LC Resource Sponsor	
		D) Equipment and sustainment must be programmed and budgeted a "lead-time away from need" to ensure that equipment deliveries do not lag RRL program	Schedule for Content Conversion and Fielding drive equipment programming decisions